MODERN PACKAGING



MARCH 1955

IN THIS ISSUE. The trend to pre-packaging
has revolutionized the marketing of produce



How do your customers OPEN your cartons?



SOFT SEAL MAKES CARTONS OR CASES VERY EASY TO OPEN...YET

A TOP-FLAP ADHESIVE

SAFE TO SHIP OR STORE



NATIONAL STARCH PRODUCTS INC. (Adhesive Division)

New low-cost boxboard tames hard-to-package foods



Gair Boxboard's new, exclusive, low-cost metallized polyethylene coated board . . .

• looks clean, sanitary, attractive • has no taste, odor or toxicity to affect food products • is strong and flexible over wide temperature range • resists grease, moisture vapor, water • is non-stainable by oils or fats • has excellent anti-stick properties • glues easily with new adhesives • creases with no fractures at score lines • won't de-laminate, deteriorate, or curl with age • is chemically inert

In addition, this board gives your product extra protection at lower cost than conventional laminates. Ask your regular carton supplier to use it.

* Exclusive Gair development — patent applied for.

B.5.8

Look what the new modest-priced metallized polyethylene coated board can package perfectly: bakery products, confections, dates, French-fried frozen foods, frozen fish, detergents, cereals, pretzels, sausages, potato chips, bleaching powders, and many others.



ROBERT GAIR COMPANY, INC. - 155 EAST 44th STREET - NEW YORK 17

MODERN PACKAGING

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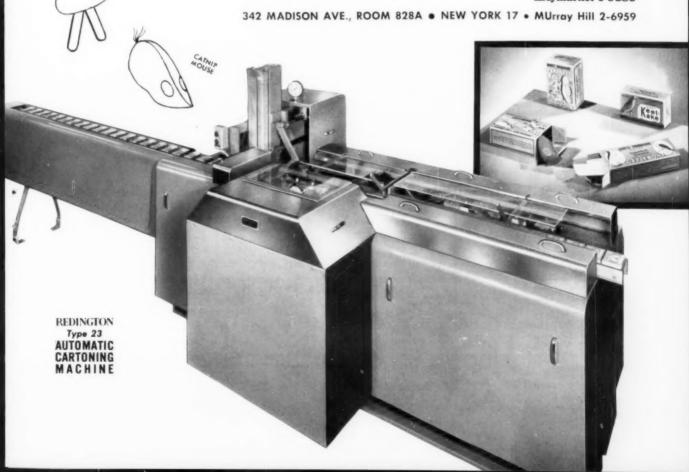
can do so many things for YOU

If you package anything that goes into a carton—big items, little items, items with or without enclosures, queer shaped items, items of several sizes in the same line—you ought to know more about REDINGTONS. REDINGTON machines are giving steady "pay-off" production with just such items to well-known companies everywhere, many with a volume the size of yours, or smaller.

This **Type 23**, for example, handles five items of unusual shape and makeup, in cartons of four different sizes, for Hartz Mountain Products of New York. Operators simply place products into pockets of machine intake, cartons in magazine, and the machine automatically produces completed packages. The process is rapid and efficient.

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MODERN PACKAGING is regularly indexed in Industrial Arts Index.





Fists across the border

A N INTERNATIONAL INCIDENT, believe it or not, has arisen right in the middle of the packaging world. No shots have been fired as yet, but tempers are rising and perhaps the whole thing ought to be referred to the United Nations Security Council.

Canada, as we hear it, complains that it has been invaded by United States package designers, who, it is intimated, are extorting large sums of money from unsuspecting natives for something no better than the home-grown product.

Hear the opening volley from Charles R. Cornell, general manager of the Packaging Assn. of Canada, in the form of a widely distributed press release announcing a program to save Canada for Canadian designers:

"Many of these U. S. designers openly brag about the apparent gullibility and susceptibility of Canadian manufacturers . . . These designers invariably charge a minimum of some \$5,000 to prepare standard label or package designs . . . Foreign design work seldom comes up to the standards of our own Canadian designers."

Hear a reply from Eric H. A. Teran of the New York design firm of Lippincott & Margulies:

"(Mr. Cornell's) remarks are childish. When a Canadian manufacturer wants a new package he deserves more than just a prettier design . . . We want to know the consumer's reaction . . . It means consumer preference and motivation tests, point-of-sale tests and, of course, hundreds of designs . . . The drawing board is only part of the picture . . . In Canada you have good designers. But you don't have a firm with a good team of designers."

Come, children! Charlie, you are making a poor defense of your country when you imply that Canadian packagers are so gullible as not to know what they are doing when they pay out that hard-earned cash (any part of \$5,000) for American design. And you, Eric, are being just a bit stuffy when you intimate that Canadian designers don't know their own markets.

Could it be that all concerned are just looking for fresh ideas and new fields? That's what makes packaging progress and our international boundary never has been and never will be a barrier.

The Editors

Dobeckmun creates...



polyethylene packages that sell everything



from soup to nuts (and bolts)

Interested in moving more merchandise across drug store counters? Got a dried food product (or fresh produce) you'd like to see sell faster? Manufacturing textile items that get rough handling at the point of sale?

Maybe Dobeckmun polyethylene packages are the sales fillip you need. Dobeckmun creates packages of all sizes and shapes, both printed and plain, for an all-but-endless list of drug, food and textile items. Dobeckmun bags are sturdy and protective. They cost surprisingly little. And retailers have a way of putting polyethylene-packed products out where people will admire them.

Dobeckmun specialty is packaging, you know. Get in touch with your nearest Dobeckmun specialist today. Write or call:

Dobeckmun Company, Cleveland 1, Ohio · Berkeley 10, California

Albuquerque • Atlanta • Boston • Charlotte • Chicago • Cincinnati • Dallas • Denver • Detroit • Indianapolis Kansas City • Los Angeles • Memphis • Milwaukee • New Orleans • New York • Omaha • Philadelphia • Phoenix • Pittsburgh Portland • Richmond • Rochester • Salt Lake City • Seattle • St. Louis • St. Paul • Tampa • Havana • London



too tough to mass-produce?

It's being done on the Brightwood

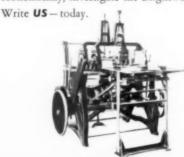
Forming these boxes by machine is an unusual job ... even for the versatile Brightwood.

Each box must be perfectly square, well-formed and strong enough to protect its precious contents – good Tampa cigars. The paperboard used is heavyweight .090 board which is too tough for many machines to handle.

However, from scored blanks of this heavy board, the Brightwood forms boxes with square, precision-cut corners. It also forms a double wall at the end of each box by folding in the glue flaps so accurately that they butt in the center. And, it produces 55 boxes per minute. The printed paper wrapper and hinged lid are then applied in a separate operation.

These boxes are as strong as wooden boxes (yet much less expensive to make) and thus provide the complete protection good cigars need!

If you are interested in producing boxes economically, investigate the Brightwood.



U. S. AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. * CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

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٥

-PAK

FLAT FILM YIELD IN LINEAR YARDS PER POUND

| WIDTH | .00125 | .0015 | .002 | .003 | .004 |
|-------|--------|-------|-------|-------|-------|
| 6" | 111.11 | 92.59 | 69.44 | 46.30 | 34.72 |
| 12" | 55.56 | 46.30 | 34.72 | 23.15 | 17.36 |
| 18" | 37.04 | 30.86 | 23.15 | 15.43 | 11.57 |
| 24" | 27.78 | 23.15 | 17.36 | 11.57 | 8.68 |
| 30" | 22.22 | 18.52 | 13.89 | 9.26 | 6.94 |
| 36" | 18.52 | 15.43 | 11.57 | 7.72 | 5.79 |
| 42" | 15.87 | 13.23 | 9.92 | 6.61 | 4.96 |
| 48" | 13.89 | 11.57 | 8.68 | 5.79 | 4.34 |
| 54" | 12.35 | 10.29 | 7.71 | 5.14 | 3.86 |
| 60" | 11.11 | 9.26 | 6.94 | 4.63 | 3.47 |
| | | | | | |

| FLAT FILM | .00125 | .0015 | .002 | .003 | .004 |
|------------------|--------|--------|--------|--------|-------|
| Sq. Yds. Per Lb. | 18.52 | 15.43 | 11.57 | 7.72 | 5.79 |
| Sq. Ft. Per Lb. | 166.67 | 138.89 | 104.17 | 69.44 | 52.08 |
| Sq. In. Per Lb. | 24,000 | 20,000 | 15,000 | 10,000 | 7,500 |

FLAT TUBING YIELD IN LINEAR INCHES PER POUND

| WIDTH | .00125 | .0015 | .002 | .003 | .004 | WIDTH | .00125 | .0015 | .002 | .003 | .004 |
|-------|--------|-------|------|------|------|-------|--------|-------|------|------|------|
| 2" | 6000 | 5000 | 3750 | 2500 | 1875 | 32" | 375 | 312 | 234 | 156 | 117 |
| 3" | 4000 | 3333 | 2500 | 1667 | 1250 | 33" | 363 | 303 | 227 | 152 | 114 |
| 4" | 3000 | 2500 | 1875 | 1250 | 938 | 34" | 354 | 294 | 221 | 147 | 111 |
| 5" | 2400 | 2000 | 1500 | 1000 | 750 | 35" | 342 | 285 | 214 | 143 | 107 |
| 6" | 2000 | 1667 | 1250 | 834 | 625 | 36" | 333 | 277 | 208 | 139 | 104 |
| 7" | 1714 | 1428 | 1071 | 714 | 536 | 37" | 325 | 270 | 203 | 135 | 102 |
| 8" | 1500 | 1250 | 938 | 625 | 469 | 38" | 315 | 263 | 197 | 132 | 99 |
| 9" | 1333 | 1111 | 833 | 555 | 417 | 39" | 307 | 256 | 192 | 128 | 96 |
| 10" | 1200 | 1000 | 750 | 500 | 375 | 40" | 300 | 250 | 188 | 125 | 94 |
| 11" | 1091 | 909 | 682 | 455 | 341 | 41" | 293 | 244 | 183 | 122 | 92 |
| 12" | 1000 | 833 | 625 | 417 | 313 | 42" | 285 | 238 | 178 | 119 | 89 |
| 13" | 923 | 769 | 577 | 385 | 289 | 43" | 278 | 232 | 174 | 116 | 87 |
| 14" | 858 | 714 | 536 | 357 | 268 | 44" | 272 | 227 | 170 | 114 | 85 |
| 15" | 800 | 666 | 500 | 333 | 250 | 45" | 266 | 222 | 166 | 111 | 83 |
| 16" | 750 | 625 | 469 | 313 | 235 | 46" | 261 | 217 | 163 | 109 | 82 |
| 17" | 705 | 588 | 441 | 294 | 221 | 47" | 254 | 212 | 159 | 106 | 80 |
| 18" | 666 | 555 | 416 | 278 | 208 | 48" | 250 | 208 | 155 | 104 | 78 |
| 19" | 632 | 526 | 395 | 263 | 198 | 49" | 245 | 204 | 153 | 102 | 76 |
| 20" | 600 | 500 | 375 | 250 | 188 | 50" | 240 | 200 | 150 | 100 | 75 |
| 21" | 571 | 476 | 357 | 238 | 179 | 51" | 235 | 196 | 147 | 98 | 74 |
| 22" | 546 | 454 | 341 | 227 | 171 | 52" | 230 | 192 | 144 | 96 | 72 |
| 23" | 522 | 434 | 326 | 217 | 163 | 53" | 225 | 188 | 141 | 94 | 71 |
| 24" | 500 | 416 | 312 | 208 | 156 | 54" | 222 | 185 | 139 | 93 | 70 |
| 25" | 480 | 400 | 300 | 200 | 150 | 55" | 218 | 181 | 136 | 92 | 68 |
| 26" | 461 | 384 | 288 | 192 | 144 | 56" | 214 | 178 | 134 | 89 | 67 |
| 27" | 445 | 370 | 278 | 185 | 139 | 57" | 210 | 175 | 131 | 88 | 66 |
| 28" | 429 | 357 | 268 | 179 | 134 | 58" | 206 | 172 | 129 | 86 | 65 |
| 29" | 413 | 344 | 258 | 172 | 129 | 59" | 203 | 169 | 127 | 85 | 64 |
| 30" | 400 | 333 | 250 | 167 | 125 | 60" | 200 | 166 | 125 | 83 | 63 |
| 31" | 387 | 322 | 242 | 161 | 121 | | | | | | |

Ger-Pak Polyethylene Layflat Tubing and Flat Film, individually packaged in rolls on 3" diam. heavy-duty paperboard cores.

Products • Inc. KENILWORTH, N. J.

PIONEERS IN MODERN PLASTICS FOR OVER 30 YEARS

PROTECTED by Riegel



AUNT JEMIMA'S NEW "COUNTER-KITCHEN" BODSTS PANCAKE SALES IN RESTAURANTS THROUGH QUICK SERVICE. KEY TO NEW MERCHANDISING IDEA IS SINGLE-PORTION PACKAGE USING RIEGEL'S POUCHPAK. A SPECIAL POLYETHYLENE COATED AND PRINTED POUCH PAPER, RUN AT HIGH SPEED ON STOKESWRAP MACHINE

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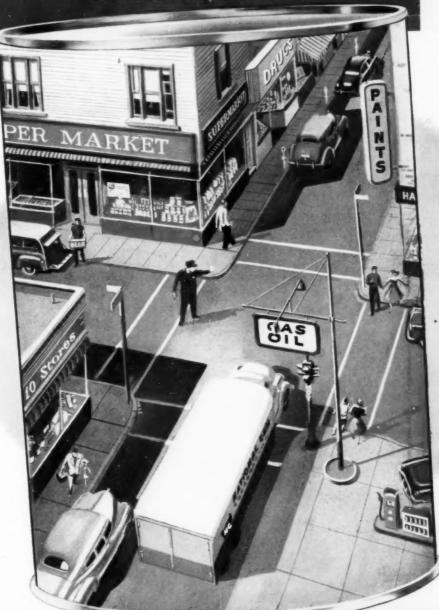
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GLASSINES AND GREASEPROOFS

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NATIONAL CAN

ON THE MARCH ...



increasing customer
service and
satisfaction . . . part
of the new
concept of
business
responsibility
at NC.



NATIONAL CAN

CORPORATION

Plants At: BALTIMORE, MD. • CHICAGO, ILL. • MASPETH, N. Y. CLEVELAND, OHIO • HAMILTON, OHIO and WARREN, OHIO

Mint-@-Money PACKAGE

This multi-unit package, wrapped in Sylvania Cellophane, makes money for the manufacturer, jobber and retailer...helps consumers save money!

You'll find Sylvania Cellophane versatile, adaptable, economical. It provides clarity, toughness, moisture-proofness—heat-seals quickly and completely—takes to printing inks readily.

Specify Sylvania—the cellophane that protects products, promotes profits. Sylvania Division, American Viscose Corp., 1617 Pennsylvania Blvd., Philadelphia 3, Penna.

Handy six pack of Life Savers is held fogether with threesided "collar" and overwrap of Sylvania Cellophane. A neat, efficient, sales-making package.

> SYLVANIA CELLOPHANE

SYLVANIA DIVISION, AMERICAN VISCOSE CORPORATION





Letting the customer see and believe the freshness of these fancy nut meats was the job Tri-State rigid plastic packaging accomplished for the Blossom Peanut Co. of Cleveland. Mouths water when customers see crispy, crunchy cashews, pecans, Brazils through the crystal-clear box. They see how the tight-lidded rigid plastic seals-in newly-roasted goodness like nothing else can.

Keeping the munch in nut meats is only one field where economical Tri-State protect-and-display packaging operates successfully. As molders of the world's largest assortment of rigid plastics, our packaging horizons are as limitless as the needs of your product.

The Freshness shows

in

TRI-STATE

show window plastic packaging





Two of a huge variety of stock sizes and shapes, or we will mold large quantities to your specifications.





MARCH 1955



TRI-STATE PLASTICS

HENDERSON 6, KENTUCKY

BOOTH 512, National Packaging Exposition

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KANSAS CITY: 502 Merchandise Mart, BAltimore 1800

DETROIT: 18401 E. Warren Ave., TUxedo 5-5500

WATCH SUNSWEET SALES SHINE

...with this New Package and the Reynolds Wrap Aluminum Packaging Seal!

Sunsweet was the very first in the long and growing parade of famous brands packaged in Reynolds Aluminum Foil. Way back in 1932, Reynolds developed for Sunsweet the first foil-wrapped carton scientific answer to the difficult problem of preventing infestation and maintaining moisture content in "tenderized" dried fruits.

That carton had the foil inside, printed paper outside. It was not until 1935 that Reynolds had perfected printing on foil-giving Sunsweet the first of its famous bright aluminum packages. And now here is the latest in this historic 20-year progression...using the Tenderized Peaches package as example. Gleaming gold for shelf appeal, this modern overwrap carries "recipe" hints to encourage more varied uses.

If you have quality protection problems, let us present the solution in Reynolds Wrap Aluminum Packaging...with the Seal to carry the story more quickly and more powerfully to your customers. Call any Reynolds Sales Office, or write to Reynolds Metals Company, General Sales Office, Louisville 1, Ky.

ALUMINUM

Pioneers in Aluminum Foil Packaging.

Weekly selling on the hit TV show "MR. PEEPERS" and monthly full-page, four-color ads in national magazines - plus rural

More and More Consumers Know the Reynolds Wrap Aluminum Packaging Seal!

Radio-make the nation know the Reynolds Wrap Aluminum Packaging Seal as the identification of protected quality. They see it on more and more products. They look for it!





SUNSWEET



PEACHES

TENDERIZED . THEY'RE PACKED BY THE





These peaches are a wholesame natural confection, and a treat just as they come from the pockage. Fully tree ripened for weetness







TENDERIZED - THEY'RE PACKED BY THE GRO

PREPARED WITH SULPHUR DIOXIDE CALIFORNIA PRUNE & APRICOT GROWERS ASSN. • SAN JOSE CALIF.



SUNSWEET

Peach Betty For something different try a Peach Bethy made with SUNSWEET peaches. Use them wherever your recipe calls for peaches. peaches.

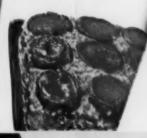
Tenderized

HE GROWERS THEMSELVES ..

SUNSWEET

Peach Cake

You can make a grand peach cake with the contents of this package. A mighty pretty cake to look at, too.



Rinse peaches, cover with water allowing for evaporation during cooking. Boil gently in uncovered saucepan about 30 minutes. If desired fruit may be sweetened to taste last 5 minutes of cooking.

Peach Fie

Fruit pie is always a favorite, and SUMSWEET Peaches are an ideal fruit for pie. They're Cali-fornia freestone.

TOP QUALITY - In this carton you have the cream of California's crop of fancy freestone peaches prepared by the exclusive SUNSWEET "Tenderized" Process.

WRITE FOR FREE RECIPE BOOK



for products that

SELLONSIGHT

WINDOW BOXES made on Internationals

Through a clear cellophane window, groceries, hardware, appliances, and a host of other products are both completely visible and completely protected. And through this same window, many a sale is born...for customers are quicker to purchase the product which they see.

If you package a product, or produce a package... for a product that sells on sight... find out about the advantages of International window applying machines. Window boxes of unexcelled quality can be produced on International machines at speeds that cut costs for you.



Another outstanding member of the International family of paper box machines, the Model CC-B, pays you a bonus in the production of window boxes.



See us at

NATIONAL

PACKAGING EXPOSITION

There's a COAX Package that will SAVE you hundreds of thousands of dollars in shipping costs

Feather lightness of Plax bottles reduces your tare weight so substantially, you can save hundreds of thousands of dollars in shipping costs.

You get other valuable bonuses, too. Rainbow-choice of colors . . . an almost unlimited selection of shapes and surface finishes . . . the dispensing method best suited to your product, whether it's a spray, drop-by-drop, controlled pouring or direct application. Consult Plax for the best in convenience packaging.

PLAX CORPORATION

P. O. BOX 1019, HARTFORD, CONNECTICUT
IN CANADA: Plax Canada, Ltd., Montreal and Toronto

PLAX

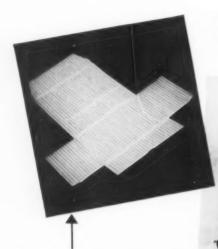
In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.

Save up to \$10.00 per 1,000 boxes with the New Thermo-Pak

that makes a 1-piece corrugated

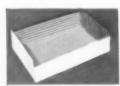
glassine box!

for cookies, candy and other fragile products.



One-piece blanked-out cartons

made of corrugated glassine permanently fused to top grade kraft board, formed in the Thermo-Pak Stayer with thermoplastic tape at a speed of up to 70 boxes per minute depending on box size. Entire inner surface is corrugated, eliminating greasing-through and wicking.



Corrugated 1-piece tray

Thermo-Pak will also make corrugated glassine trays in a range of sizes from 3¾" x 8" to 9¼" x 18" blanks.



eliminates the cost of inserting corrugated liners by hand. Corrugations are not crushed or flattened, assuring cushioning characteristics equal to separate liners.

Only Thermo-Pak can produce this superior

1-piece corrugated box with all these cost advantages:

- Material economy top quality box board corrugated glassine stock costs less than box board and liners purchased separately.
- Labor economy only one operator is needed to run two Thermo-Pak Stayers.
 Hand insertion of liners is eliminated.
- Space economy eliminating liner inserting tables and storage of separate liners.
- Production economy high daily output of perfect boxes grease resistant, attractive after the overwrap is removed, with strength to protect the contents.
- Size range of carton blanks-from 3¾" x 8" up to 16¾" x 20¾".

See it at the Packaging Show Booth 1022



STOKES & SMITH CO.

4904-M SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

Pocific Coast: SIMPLEX PACKAGING MACHINERY, INC., 534-23rd AVE., OAKLAND 6, CALIF.

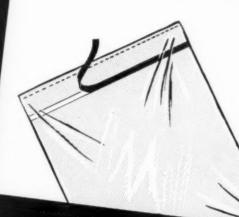


SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION



Presents Two Important New Developments in Bag Design

NEW, DIFFERENT, TEAR-RESISTANT CELLOPHANE STRONGTOP BAGS with a TEAR-TAPE



Our exclusive, easy-filling STRONGTOP bags are now available with a tear-tape running horizontally on top. The tear-tape permits bag to be sealed but eliminates messy appearance when opened. Contents stay fresher longer when in use because tear-tape opening allows bag to be folded over neatly and tightly.

Excellent for dry foods, candy, produce, hard goods, toys and soft goods.

elrose SHAPE BAGS

in POLYETHYLENE and PLIOFILM





A Unique Packaging Medium Custom Designed for your Product

Tapered and Shaped Bags for:

> Candy Toys Cereals Cosmetics Produce

Hardware Foods Clothing

All bags plain or multi-color printed

Our designers will be pleased to discuss your flexible packaging problems with you at no obligation.

elrose packaging corp.

ALL TYPES OF PACKAGING MATERIALS INCLUDING CELL-O-POLY BAGS . GREASEPROOF PAPERS . BARRIER BAGS

MARCH 1955

17

SALED UNTIL SO



When liquid goes into a bottle which is capped by an R.O. Pilferproof Seal it is safe until it is sold. In transit or in store, tampering is discouraged. The moment the Pilferproof Seal is broken a 'tell-tale' ring drops down the neck of the bottle. Because of this security, as well as its attractive appearance and its made-to-measure fit, the R.O. is the perfect seal for bottles and jars.







METAL CLOSURES LTD · WEST BROMWICH · STAFFS

ENGLAND



Keep the Pep in Popcorn

--- with a PLIOFILM lamination

If YOU'RE packaging any moisture-sensitive product, there's a good tip for you in this picture. It shows how PLIOFILM, laminated to conventional film, can give both the protection and the eye-appeal you want.

PLIOFILM is moisture-resistant, grease-resistant, doesn't wrinkle. It heat-seals at a wide temperature range. It can be laminated to paper, foil, other types of film, to itself, or it

can be used as a single film. It takes color printing beautifully.

What's your problem? Coffee — chocolate — spices—drugs? A PLIOFILM lamination could be the perfect answer. Why not discuss it with the Goodyear Packaging Engineer? Write Goodyear, Packaging Films Dept. C-6418, Akron 16, Ohio.

Pliofilm, a rubber hydrochloride-

T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Good things are better in

Pliofilm



CROWN SPRA-TAINER. Does It again!

IN NEW C.S.M.A. AEROSOL PACKAGING CONTEST

Again in 1954 Crown SPRA-TAINER, famous for *Modern Design That Sells*, walked away from all competition when the Chemical Specialties Mfrs. Assn. chose the year's best pressure packages. Crown customers won the Grand Award and 6 "firsts" in the 10 product classifications! Obviously Crown's package-design know-how, covering a *complete* line of cans

for today's industry, helps products look better and sell better. Couldn't you use that knowledge?



FIRST PRIZE - Insecticides Canada Res Spray Co., Ltd. Britanian, Ontaria





FIRST PRIZE Miscellaneous Personal Products Walgreen Drug Stores Chicago, III.



FIRST PRIZE - Artificial Sne Plasti-Kote, Inc. Claveland, Ohio



FIRST PRIZE - Industrial Product Mitchell Chemical Co.



CROWN CORK & SEAL COMPANY, INC.

One of America's Largest Can Manufacturers

PHILADELPHIA . CHICAGO . ORLANDO . BALTIMORE . NEW YORK . BOSTON . ST. LOUIS . SAN FRANCISCO

20

MODERN PACKAGING

YARDLEY announces

new facilities for:

VACUUM FORMING

This fast-growing process has many unusual applications. Yardley's complete facilities include latest-type presses for molding refrigerator and television parts, sign faces, displays, packaging of all types and special shapes from standard and special materials at minimum tooling costs.

INJECTION MOLDING

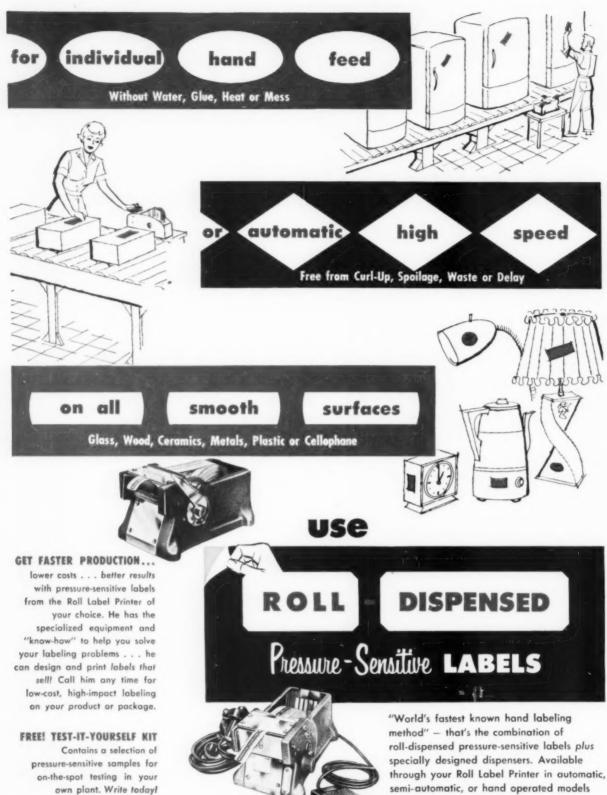
With the addition of the newest-type 48-oz. press, Yardley now offers a full range of molding capacities. The large number of presses in all sizes assure you of high-volume production, faster delivery, lower per-unit cost, complete designing, engineering and consulting service on Vacuum Forming, Injection Molding and Custom Extrusion problems.

There's an experienced Yardley representative near you. Check the Telephone Yellow Pages.

YARDLEY PLASTICS COMPANY

142 Parsons Avenue • Columbus, Ohio

IN CANADA: Daymond Co., Ltd., Chatham, Ontario . EXPORT SALES: F. and J. Meyer, 115 Broad St., New York 4, U.S.A.



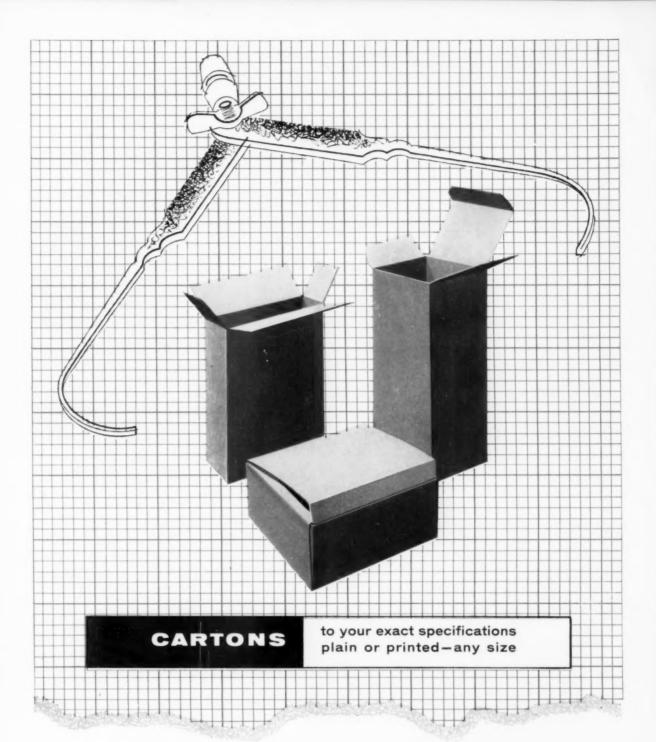
Pioneers in Pressure Sensitives for Advertising and Labeling

semi-automatic, or hand operated models to fit every application.

KLEEN-STIK 225 NORTH MICHIGAN AVENUE

PRODUCTS, INC. CHICAGO 1, ILLINOIS

MODERN PACKAGING





FIBREBOARD PRODUCTS INC.

Head Office: San Francisco 11, California
FIBREBOARD PRODUCTS (EASTERN DIVISION) INC.
Philadelphia and Baltimore

SALES OFFICES: (West) Billings • Boise • Denver • Fresno • Los Angeles • Oakland • Phoenix • Portland • Sacramento • Salem • Salinas • Salt Lake City Seattle • San Diego • San Francisco • San Jose • Stockton • Yakima • (East) Baltimore • Chicago • Easton • Lancaster • New York • Philadelphia • Reading

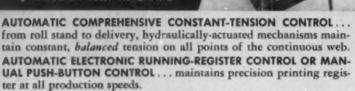
high-speed, high-volume printing and converting are Simplified



Rotogravure Press
with Rewind Delivery
the secret is

CENTRALIZED CONTROL!

All press equipment can be controlled from each color or control station. All controls are on the operator's side of the press. All running controls are FULLY AUTOMATIC.



AUTOMATIC MAINTENANCE OF PRINTING PRESSURE — Hydraulic impression cylinders maintain, and return to, exact pre-set printing pressure.

The only adjustment required to operate press over full printing range is the Vernier setting of the variable speed pull tension control which:

- 1. Stabilizes web travel throughout printing section.
- 2. Permits rewinding delivered rolls of ANY DESIRED DENSITY!

| Madels . | 14"* | 20′′* | 26" | 36" | 44" |
|--|--------------|-------------|-------|------------------------------|------|
| Max. Print, Width | 14" | 20" | 27" | 36** | 44" |
| Max. Web Width | 15" | 21" | 28" | 37" | 45" |
| Min. Cyl. Circum. | 9" | 13" | 17" | 17" | 17" |
| Max. Cyl. Circum. | 18" | 26" | 34" | 34" | 34" |
| Production speed (with | rewound ro | II delivery |) on: | Speeds u | p to |
| Cellophane Glassine, sulphite, ligh | t paper, par | er-backer | | 500 feet per 600 feet per | |



Champlain manufactures a complete line of roll-fed rotogravure, flexographic, letter press, cutting and creasing and allied equipment for packaging and specialty printing. This precision-built complete rotogravure unit prints most stocks—from light films to heavy, rough papers and board—with impression pressures from 0 ("kiss") contact to 400 lb. per lineal inch. Precision-built for sensitive, delicate work, yet able to withstand heavy impressions, this unit will give more-than-satisfactory service for years with practically no maintenance. It will maintain accurate register and fidelity of reproduction—even with heaviest production schedules.

FULLY-AUTOMATIC RUNNING CONTROLS PLUS ALL THESE QUALITY FEATURES:

- Heavy duty unit drives maintain register with minimum control.
- Full retention of all tonal qualities in printing cylinder insured by full-range doctor blade adjustment, sensitive hydraulic impression adjustment, and uniform inking in the first quadrant of printing cylinder with secondary inking.
- Individual color unit dryers provide maximum area of web under dryers with minimum web leads.
- All printing units readily converted to back printing without turning bars.
- · Equipment explosion-proof wired.

Write today for catalog of Champlain press equipment and full information on NEW Champlain Rotogravure Presses with Rewind Delivery. Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago office: 520 N. Michigan Avenue, Chicago 11, Ill.



MR. JUSTICE HOLMES on the exchange of ideas * * * the ultimate good desired is better reached by free trade in ideas. The best test of truth is the power of the thought to get itself accepted in the competition of the market. *** We should be eternally vigilant against attempts to check the expression of opinions that we loathe and believe to be fraught with death, unless they so imminently threaten immediate interference with the lawful and pressing purposes of the law that an immediate check is required to save the country. (Abrams vs. United States, 1919)



Great Ideas of Western Man ... ONE OF A SERIES CONTAINER CORPORATION OF AMERICA

SIMPLEX-MADE BAGS

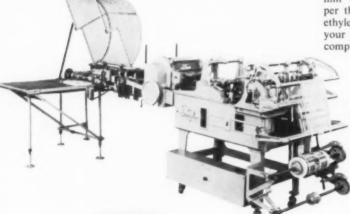
SELL EASIER! STAY SOLD!

-Even on
HEAVY MIL POLY



- MORE SALES APPEAL
- HIGHER PRODUCTION

With Simplex's exclusive stop and seal action you can produce a sealed seam as strong as the bag itself—and that's what packagers of potatoes, apples, oranges, chemicals and other heavy products want. This means you can make more sales with Simplex-made bags. And your customers stay sold! You gain too—with automatic stacking-counting-sorting which lets just one operator handle more than one machine. Less rejects, less film waste, plus higher output give you lower cost per thousand. Get all the reasons why Simplex Polyethylene Bag Making Equipment gives you most for your money invested. Write Dept. MP-3 today for complete details.



NEW IMPROVED MODEL 4-7 POLY BAG-MAKING MACHINE

New Simplex center sealer and phenolic forming plates give excellent results . . . even on heavy mil deep gusset polyethylene bags.

REPRESENTATIVES IN ALL PRINCIPAL CITIES

SIMPLEX PACKAGING MACHINERY, INC.

534 23rd AVENUE, OAKLAND 6, CALIFORNIA

Foreign sales: FMC Export Dept., P. O. Box 1120, San Jose, Calif.

(Cable Address: FOODMACHIN)

fmc

SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

PACKAGING ADVANCES





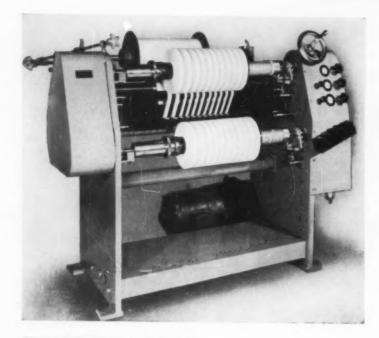
SEFTON FIBRE CAN COMPANY

St. Louis • New Orleans • Portland, Oregon • Piqua, Ohio • Jeffersonville, Ind. • Berkeley, Cal.

MARCH 1955

NEWLY DESIGNED ...

DUSENBERY



SHEAR CUT AND RAZOR BLADE SLITTER

MODEL 635

for

FILM • TAPE

PAPER

MODEL 635 WIDTH 32"-42"-52"

CORE SIZES AVAILABLE 1" THROUGH 6"

MINIMUM SLIT WIDTH 1/4"

SPEEDS 500 FPM (Depends on static created)

TYPE 635 AB
REWIND 131/2"
UNWIND 18"

TYPE 635 AC REWIND 18" UNWIND 30"

FLOOR TYPE UNWINDERS CAN BE SUPPLIED FOR LARGER DIAMETER MILL ROLLS An entirely new design based on the latest technique in the field of slitting plastic film, laminated foil, tape, glass cloth and paper. It has been tested and purchased by the largest producer of plastic film.

FOIL

The main tension controlling devices on the payoff and rewind are air operated to enable operators to determine the optimum running conditions for a given material, and to duplicate previous performance.

While the machine has been designed primarily for use on large scale production slitting, it is ideally suited for engineering development purposes for slitting new products and obtaining quantitative data on products in production. Note that the machine is adapted for shear cut, razor blade and rotary type cutting. In special cases score cutting can be used.

JOHN DUSENBERY COMPANY, INC.

275 GROVE AVENUE, VERONA, N. J.

Tel: Verong 8-3915



SWIFT

CENTENNIAL

1955

TO SERVE INDUSTRY BETTER

"See you at the Packaging Show

"See you at the Packaging Show
— Chicago in April"

Booth 739-741

USE THIS COUPON FOR FURTHER INFORMATION

SWIFT & COMPANY Adhesive Products Dept. 4115 Packers Ave., Chicago 9, Ill.

Please send further information on the following products:

- ☐ HIGHSPEED case sealing adhesive ☐
 - ☐ PALLETITE
- ☐ REGULAR case sealing adhesive
- ☐ HOT PICK-UP GUMS
- ☐ EVERTITE for glass labeling

Company____

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Your name

control's the thing...

WITH ANCHOR HOCKING, TOO

No billiardist becomes a cue master without perfect control. And control is important, too, in the manufacture of Anchor Hocking quality products.

From the selection of all raw materials to the final production line inspection, Anchor Hocking employs literally hundreds of exacting controls, tests and checks involving many scientific testing devices. Although each factory maintains a laboratory of its own for quality control purposes, central laboratories at Lancaster, Ohio, serve as a control center for all—veritable watchdogs that make certain that Anchor Hocking products comply with their rigid specifications.

Eleven strategically located factories and sales-service representatives in 25 principal cities in the U. S. and Canada await the opportunity to serve you with controlled high quality Anchor Hocking products.



Anchorgiass® Containers are uniformly strong, tough, dependable—high in chemical durability, accurate in dimensions, capacity and finish...a result of exacting quality controls.







Technicians regularly cut and analyze sections of containers to check the uniformity of glass to 62½ times . . . is of inestimable value in distribution so essential to strong containers.



All Anchorglass Containers are subjected to close and careful inspection by specially trained selectors before packing and shipping.

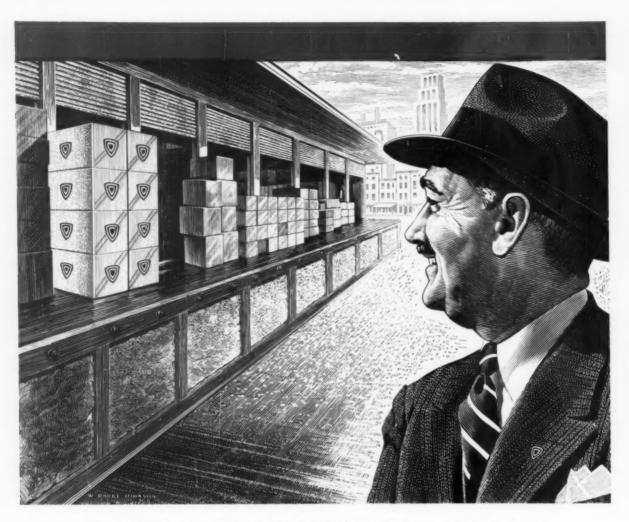
Anchor Hocking

GLASS CORPORATION

GENERAL OFFICES - LANCASTER, OHIO



ANCHORGLASS CONTAINERS, ANCHOR METAL AND PLASTIC CLOSURES, ANCHOR SEALING MACHINES, CARTONS AND PACKAGE ENGINEERING SERVICE. FOR PACKERS, MANUFACTURERS, BOTTLERS OF FOODS, DRUGS, HOUSEHOLD CHEMICALS, COSMETICS, TOILETRIES, BEVERAGES, BEERS, ALES, WINES AND LIQUORS.



HAVE YOU LOOKED LATELY?



How long since you've seen your product on a loading dock, side by side with your competitors'? Does your container reflect the care and quality you've put into your product?

Gaylord Boxes are built to quality standards as exacting as those you insist upon in your own plant. You and everyone with whom you do business will recognize the look of leadership Gaylord containers add to your products.

Does your product deserve a Gaylord container? For fast service, contact your nearby Gaylord sales office today.

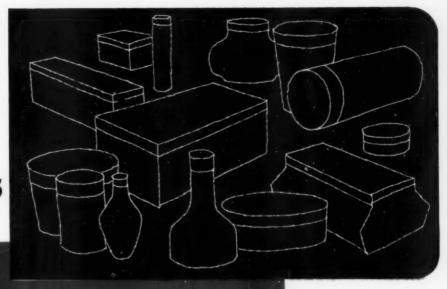
CORRUGATED AND SOLID FIBRE BOXES . FOLDING CARTONS . KRAFT PAPER AND SPECIALTIES . KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION * ST. LOUIS

SALES OFFICES FROM COAST TO COAST * CONSULT YOUR LOCAL PHONE BOOK

MODERN PACKAGING

All kinds of PACKAGES



Drugs HARDWARE ITEMS

Frozen Foods Commetics

HOUSEHOLD SUPPLIES DAIRY PRODUCTS

All kinds of **PRODUCTS**

need Du Pont ALATHON® polyethylene resin

♦ Durability

V Lightness **V** Strength **V** Flexibility

- * "Zytel" is the new trade-mark for Du Pont nylon resin
- Registered trade-marks of E. I. du Pont de Nemours & Co. (Inc.)

Use coupon below for information on the types of "Alathon" best suited for your packaging needs.



E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department Room 243, Du Pont Building, Wilmington 98, Delaware

Please send me more information on Du Pont "Alathon" polyethylene resin: Uses []; Processing Techniques []; Properties []. I am also interested in receiving information on: "Zytel"* nylon resin : "Teflon"† tetrafluoroethylene resin []; "Lucite"† acrylic resin [...

Name _ Position _ Firm Name Street Address City State___ Type of Business

Choose your labeler from the Label-DRI® family—



EVERY HOUR IS ALL PRODUCTION TIME - with NO DOWNTIME for glue preparation!

Here's why DRY LABELING

makes Glue obsolete...

Dry labeling-done on the Label-DRI means that your labels-coated with plastic adhesive attain perfect tackiness through an accurately controlled heating element. They are literally bonded to the package, from edge to edge.

With glue, you have no such sustained performance. Too much water causes blisters and imperfect adhesion. Too little water causes excess adhesive, glue seepage and crystallization.

Only when the perfect balance of water and glue is contrived, do you get the results wanted. It takes constant care, and frequent interruptions for mixing or adding glue or water, to keep such equipment operating. With morning preparation, and evening clean-up, you lose approximately 40 minutes a day. Which, at even 100/m lowers production volume by 4,000 units per day.

Only DRI LABELING—the Label-DRI eliminates these many lost minutes. It delivers more work because every hour is productive—with no downtime, and no variables to fight.

Try the DRI-way!

Write for complete details!

The PONY Label-DRI up to 60/m



The Label-DRI CHALLENGER up to 150/m



300/m

NEW JERSEY MACHINE

Corporation

AUTOMATIC LABELING . PACKAGING

FACTORY SALES AND SERVICE BRANCHES 325 W. HURON ST., CHICAGO 10, III. 1701 CAREW TOWER, CINCINNATI 2, OHIO 2500 W. 6" ST., LOS ANGELES 5, CAL.



PAPER BOX MACHINERY . MAKERS OF THE PONY LABELRITE

MAIN OFFICE & FACTORY: 1510 WILLOW AVENUE, HOBOKEN, N. J.



Lustre . . . liveliness . . . sales appeal! Milprint lithographed box wrappers have it—that magic Milprint touch that changes mere boxes into salesmen! It's the result of complete control of the job from design through plate-making and presswork—plus facilities second to none.

Besides design and merchandising ideas, Milprint offers you the widest variety of packaging materials and printing processes available from any single source... backed by over half a century of experience. Why not put Milprint lithography to work selling for you? Call your Milprint man—first!

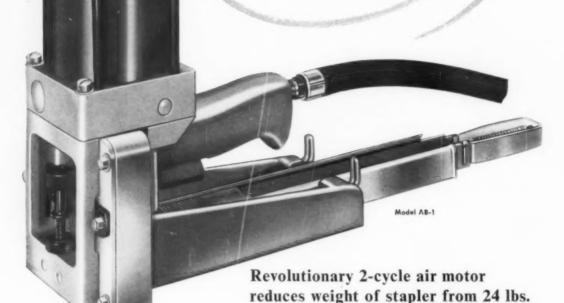
General Offices, Milwaukee, Wisconsin Sales Offices in Principal Cities

This insert lithographed by Milprint, Inc.

Reg. U. S. Pal. Off.







Speed up carton closing operations and reduce your shipping room overhead with this light-weight portable pneumatic stapler. It gives quick, safe, strong closures on many different types of corrugated and fibre board cartons, including center slotted, partial overlap, full overlap, telescope and others.

Light weight makes it easy to handle and it's perfectly balanced for fatigue-free operation. It's fast, will close any type of carton in a matter of seconds...substantially reduces the number of man hours necessary for your packaging operation. No electrical connections necessary.

to 8 lbs. 12 oz., cuts cost in half!

The radically new air motor, plus simplified construction, eliminate heavy material and complicated mechanisms used in former staplers of this type. Weight is reduced almost two-thirds... from 24 lbs. down to 8 lbs. 12 oz. and the price has been reduced to less than half the cost of previous models.

Find out how this stapler can save you money. See your local distributor or write for bulletin No. AB/701.



PACKAGE FOR PROFIT. USE INTERNATIONAL STAPLERS FOR FASTER, FINER CLOSURES.

International Staplers

Consistently Good!



VENESTA FOIL

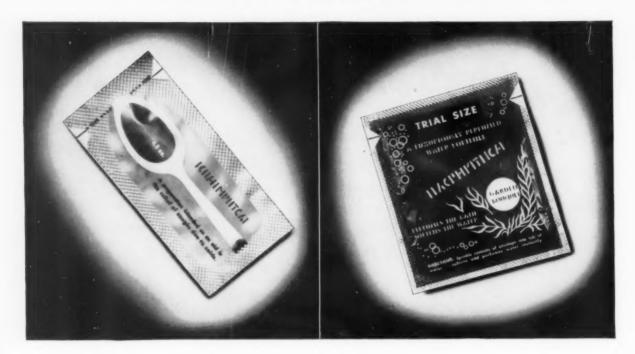
A product of the Packaging Division

Venesta Limited, Vintry House, Queen Street Place, London, E.C. 4, England. Cables: Venesta, London

MARCH 1955

IMPROVE YOUR SALES

WITHOUT INCREASING YOUR COSTS



Powders and creams especially demand brilliant, hard-hitting merchandising. Consumer preference hangs on a thread . . . attractiveness, convenience and package size can spell out the difference.

You can provide your products with these vital sales aids through the use of the Ivers-Lee packaging facilities. For then you will be giving them the unique advantages of exclusive I-L features—I-L Super-Sealtite* with Feather-Lite Tear and Double Diamond Tear Notches*.

You need buy no packaging machinery for this—you don't have to expand your plant—you make no capital investment.

At Ivers-Lee complete unit-packaging services are at your disposal. Your package can be designed to fit your product. The quantity can be large or small, from 5,000 to 500,000,000—for sampling or standard sale use. You send us your product in bulk, we return it to you packaged and ready for shipment.

Get your I-L Super-Sealtite samples and details of the complete I-L Service. You will receive them promptly and without obligation.



I-L SUPER-SEALTITE—The Package That Never Stops Selling

*Pats. and Pats. Pending

just off the press!

1955

EDITION

Here's the picture-story of the service you get when you order from S.G.S., the world's finest gravure cylinder service plant. Large 9" x 12" 24-page book shows all the basic steps in producing rotogravure cylinders . . . from arrival of order to shipment of cylinder.

Fast service covers every size cylinder — every operation, including chrome plating . . . SGS delivers in 3 weeks!



FREE!
write nearest plant
for your copy

GENERAL OFFICE

SOUTHERN Gravure Service

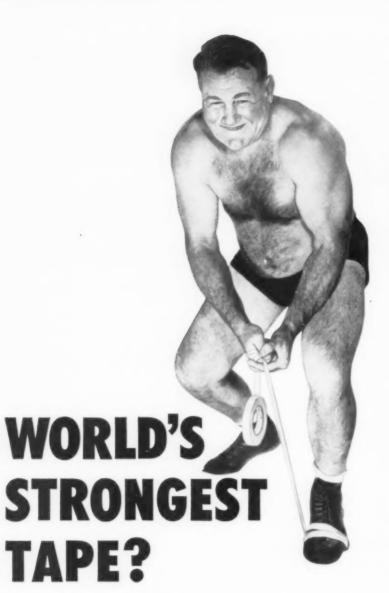
INCORPORATE

2823 SOUTH FLOYD STREET LOUISVILLE, KENTUCKY

SOUTHERN GRAVURE SERVICE of CALIFORNIA

INCORPORATED

1841 ADELINE STREET OAKLAND, CALIFORNIA



Even "The Bronk" can't break it!

"SCOTCH" Brand Filament Tape is super-strong, amazingly shock-resistant. Thousands of filaments imbedded in the pressure-sensitive adhesive give it up to 500 lbs. tensile strength per inch of tape width. New exclusive "mirror sur-

face" adhesive gives 100% tape contact; puts all the tape strength to work. For complete information on how you can use it in materials-handling and heavy-duty packaging, just write on your letterhead to Dept. BW-25.

FILAMENT TAPE... one of PRESSURE-SENSITIVE TAPES

for industry, trademarked...



The term "Scotch" and the plaid design are registered trademarks of Minnesota Mining and Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Avenue, New York 16, N. Y. In Canada: P.O. Box 757, London, Ontario.



LOOK what you can do with it!



containers for products open in seconds with Tear Strips of "SCGTCH" Brand Filament Tape. Just a pull of the tape and Z-I-P... the carton opens, just like cigarettes—no knives, cleavers, or wedges; ends loss from damaged goods.



BUNDLE metal conduit, pipe, tubing, lumber, and other hard-to-handle materials with "SCOTCH" Filament Tape and automatic banding and bundling machine. Tape sticks at a touch; holds firmly; won't scratch or man surface.



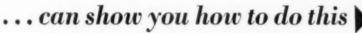
UNITIZE shipments of bagged goods with "SCOTCH" Filament Tape. A quick, inexpensive way to reduce damage claims due to load shifting, bulging, vibration.



SPEED APPLICATION with handy "SCOTCH" Brand Filament Tape Dispenser Model H-120. Complete, portable, and compact; saves time and makes application easier.



This new booklet





This tower of cases represents a typical eight-hour day's output—242,000 jars of baby food—on a Pfaudler RP-21 Piston Filler at Beech Nut Packing Co.

... and answer these questions:

Exactly how does a rotary piston filler operate?

• Diagrams and explanation show you how!

How can I lower the cost of cleaning food fillers?

 Booklet shows you how I man, using no tools, can do the job in less than ½ hour!

Can you guarantee the speed of filling my products?

• Typical chart gives examples of guaranteed filling speeds!

What fillers are available, and what jobs are they designed for?

 Six well-organized pages on filler operation and accessories give you all the answers!

you mail this coupon ... today!

Pfaudler

THE PFAUDLER CO., ROCHESTER 3, NEW YORK Engineers and Fabricators of Food Processing Equipment

Gravity Fillers Piston Fillers Steam Peelers Deaerators Vacuum Pans Evaporators

THE PFAUDLER CO., Dept.MP-3, Rochester 3, N.Y.

Please rush me a copy of your new rotary piston filler booklet No. 911.

- ☐ I am working on a problem in filling.
- ☐ I want to bring my literature library up to date.

Name

Title

Company_

Address

City

Zone State

FOR Today's PRODUCTS

ammonia

All of the products you see pictured on these two pages go to market safely, attractively and economically in cans by Canco! Packaging experts, aware of the advantages of metal containers, have selected Canco cans for these and many other products. When you are looking for a new package, stop and consider the advantages of the metal container!

During the last fifty years, Canco has made packaging history . . . with the can trademarked "Keglined" for beer and ale . . . the vacuum pack can for coffee . . . the motor oil can . . . the paper milk container . . . the non-drip can for detergents . . . containers that have been so successful they are now recognized as standard packages for the industries they were created to serve.

Remember: your packaging problems are our business. Through the years Canco has assembled for you a unique combination of competent people, strategically located plants, research leadership, technical assistance, and continuous quality.

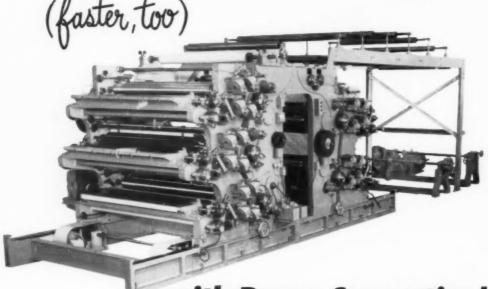








print better breadwraps...



with Paper Converting's 5-color OIL INK LETTERPRESS

Breadwraps, frozen food overwraps, candy wrappers—any flexible sheets—print sharper, truer, and faster on Paper Converting's 5-color metal plate letterpress. Compact rotary design assures hair line register for full color packages—cuts makeready time and customer complaints. Top quality comes faster and easier, for side and rotary registration as well as form rollers are adjustable while the press is running. Pressmen have instant, complete control of all colors from the floor . . . no climbing and wasted time.

You'll benefit from the finer quality, higher production, and more accurate scheduling made possible by the exact, reliable performance of this press. Special features include slow-speed drive to all colors, easy mounting of fountain dividers and color separators, variable ductor roll dwell control, close fountain key spacing, automatic lubrication, and the maximum number of anti-friction bearings possible.

Want to know more? Sales manager or plant superintendent, you owe it to yourself to discover what this press can do for you. A card or a call will promptly bring full information about the 5-color oil ink letterpress, another Paper Converting "problem-solving" machine.

PAPER CONVERTING
Machine Company SREEN DAY 7, WISCONSIN



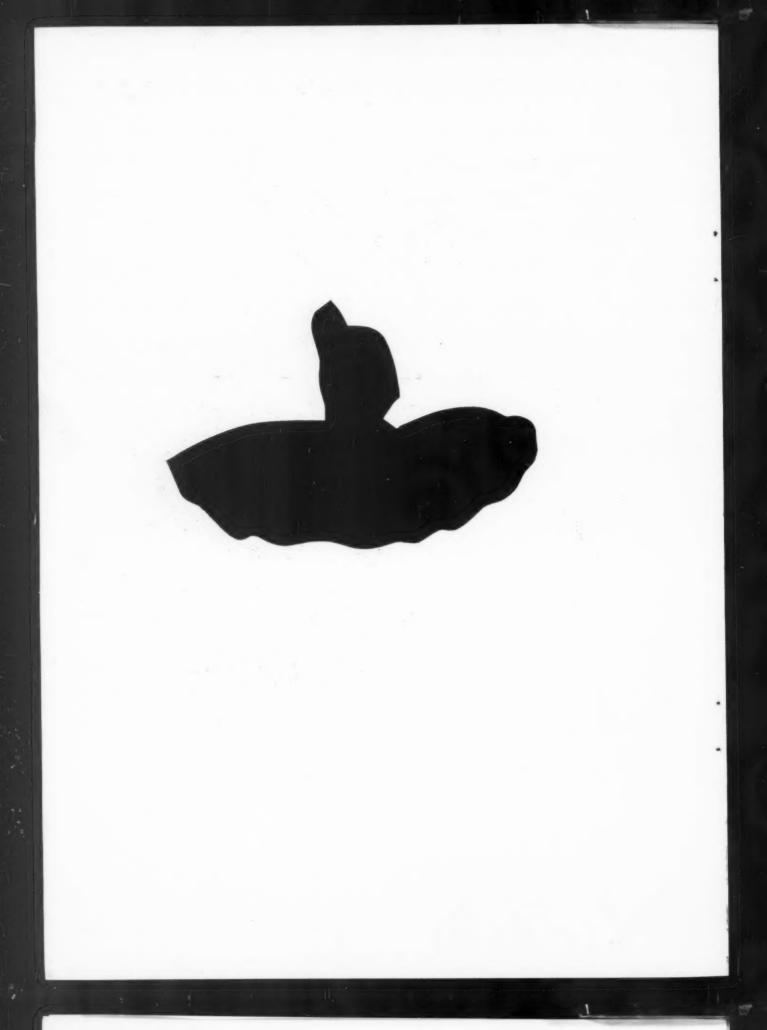
"PROBLEM-SOLVING" CONVERTING MACHINES

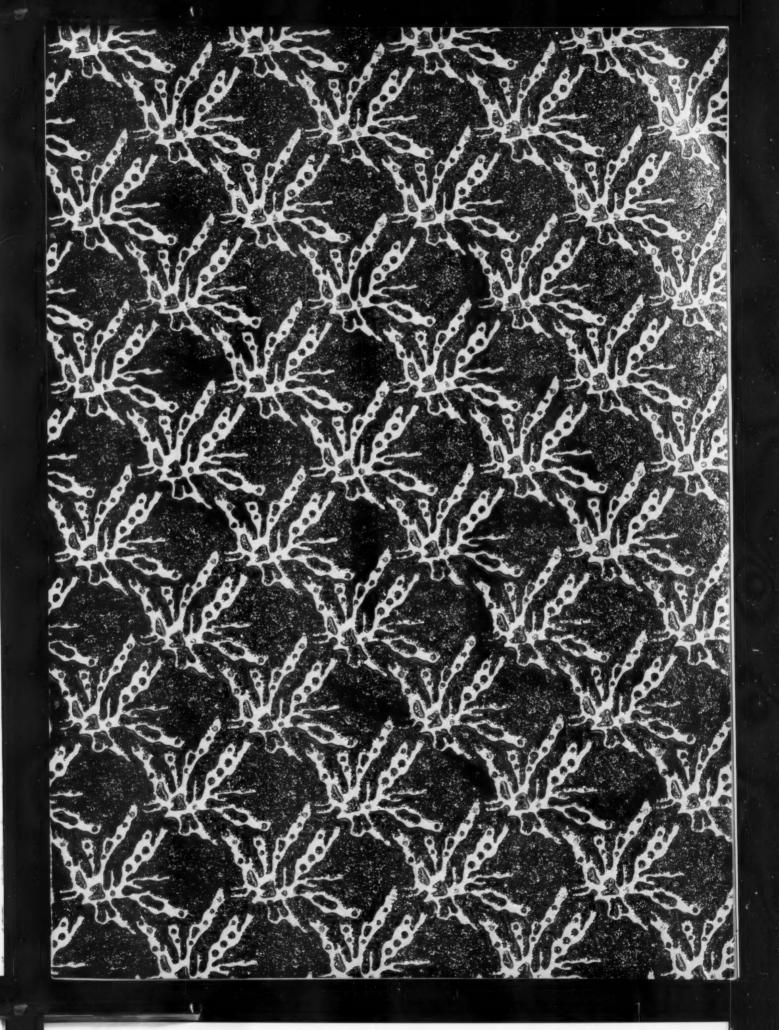
brilliant performance...

fisher's foils



TELEPHONE WEMBLET SOIL CABLES & GRAMS LLUTNIT WEMBLET LARC CODE STHEON



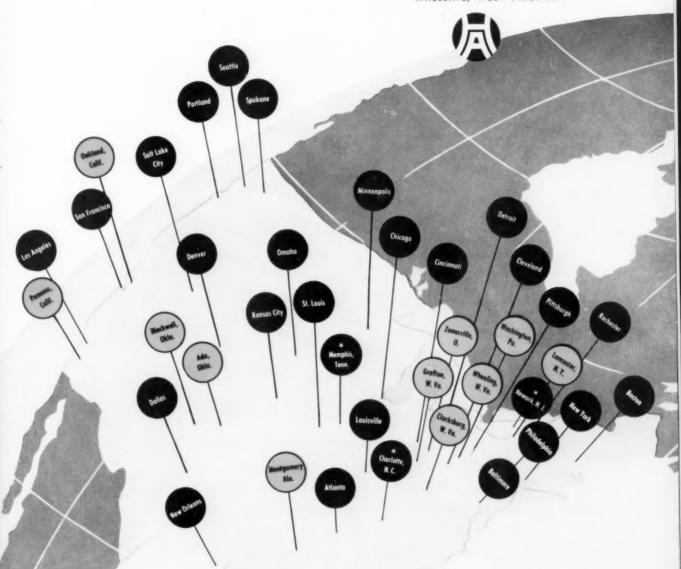




Throughout all stages of manufacture, every roll of foil made by Fisher's Foils of England is automatically controlled for gauge consistency by the latest beam gauge. Send today for wide range of samples or ask our representative to call.

Hazel-Atlas Glass Company

WHEELING. WEST VIRGINIA



H-A SERVICE in GLASS

H-A service in glass, means there's always an H-A sales office or factory
near you — staffed by practical glass
men interested in your problems, both
sales and production.

SALES OFFICE

So that we may better serve you, we are reprinting this map to show our new sales offices in Newark, New Jersey, Charlotte, North Carolina, and Memphis, Tennessee.



50

A. E. Kellogg, St. Louis Norman A. Buist, Los Angeles You save money...print better



exographic Ink

"400 Series" Ink is the right ink for all these stocks

CELLOPHANE

It's versatile - BBD's "400 Series" Flexographic Ink gives uniformly excellent results on almost every type of cellophane, polyethylene, foil, glassine and specialty papers . . . requires no alteration whatever. It's economical with "400 Series" you carry a smaller ink inventory . . . eliminate loss from "leftovers" of partially used kits...save time and confusion that result from having a wide variety of inks on hand ... gain higher press output by switching from one stock to another without cleaning fountains or changing ink. It prints better - "400 Series" Ink cleans itself from plates and rollers with every revolution to give you cleaner, sharper impressions... is color-stabilized to

assure brilliant, richer, glossier prints ... passes the most critical tests for adhesion.

BBD's "400 Series" Ink has many other desirable qualities too. It dries fast - won't fill in or offset at running speeds up to 475-fpm . . . it's non-blocking - remains anchored ink-to-ink and ink-to-stock at temperatures up to 130°F . . . it's light-fast and non-bleeding - will withstand water, wax, grease or overprint varnishes.

"400 Series" Ink has been successfully used by leading flexographic printers for the last four years. Try it on that next job and see why it's the right ink for you too.

Anchor-coated CELLOPHANE

> Moistureproot CELLOPHANE

POLYETHYLENE (treated)

ALUMINUM

GLASSINE

SPECIALTY

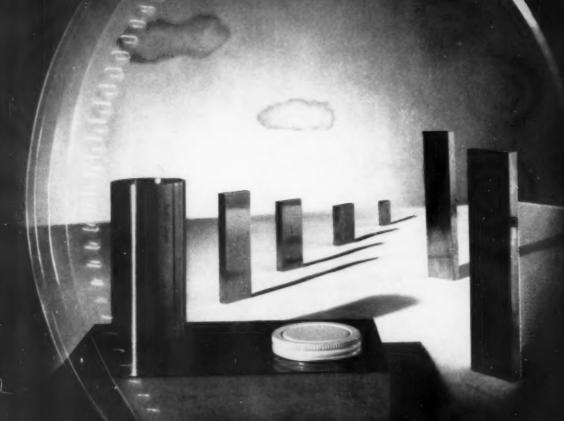
Bensing Bros. and Deeney

Flexographic Ink Specialists

PHILADELPHIA . CHICAGO . SAN LEANDRO, CAL. CAMBRIDGE, MASS. . MONROE, LA.

COLORA, LTD. MANTON BROS. TRENAL CO. Toronto, Canada Brussels, Belgium Export: McLAURIN-JONES CO., New York

SCIENCE...GUARDIAN OF QUALITY*



BERNARDIN Metal Closures

... A never ending effort to safeguard quality through use of modern developments of science.
... A never changing desire to lend industry a helping hand in solving its closure problems.

...Is it strange that a distinguished and growing clientele uses millions of our closures each year? Bernardin Bottle Cap Company, Evansville, Ind.

> *Pictured—Gage Blocks, accurate to a millionth of an inch, supply the basic measuring precision back of Bernardin craftsmanship.

Since 1881 - America's First Manufacturer of Metal Closures

fine-weld*

seams

give your merchandise Bemis Polyethylene
Bags made with the
newly perfected and
exclusive FINE-WELD
seams are your salesbuilding, showcase
packages.

They...

Give complete seam-free visibility, front, back and bottom.

Give crisp, colorful, full-face brand printing.

Give a neat, trim package, with sturdy, almost-invisible side seams—FINE-WELD, the seam that is stronger than the film itself.

And...they are economical.

*Trademark

"showcase packaging"...

Send coupon for folder explaining the many benefits you get from the wide range of Bemis Polyethylene packaging.

Bemis



St. Louis 2, Missouri

BEMIS BRO. BAG CO.

408 Pine St., Box 49, St. Louis 2, Mo.

Please send folder about Packaging for Sales in Polyethylene.

Name

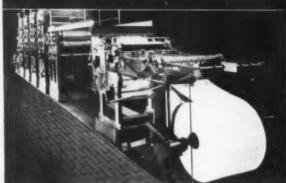
Company

Address

City

Zone Sta

Check ATF

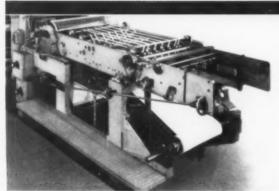


ATF Web-fed Offset presses are available for high-speed production of all types of business forms, process printing, publications, and web-color specialties like playing cards, calendars and novelties. Giant web-color press shown here prints four colors on both sides,

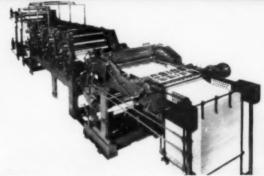


ATF Web-fed Letterpress units such as this outstanding general-duty business forms press, are available for many applications. This press prints, numbers, teletype- and line-hole punches, cross- and vertical-perforates, and rewinds or delivers in flat sheets,

... for more engineering know-how



Auxiliary units to meet your needs—like this Hi-Speed Rotary Sheeter and Auxiliary Rewind—can be supplied for any ATF or other make of web-fed press. ATF's broad engineering experience assures you the exact folder, rewind, sheeter or combination your work requires.



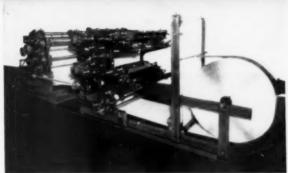
Bindery operations right on the press save you time and labor, boost your production. Cross and vertical perforating, numbering, imprinting, carbon spotting, slitting, sheeting, die-cutting, punching, or carbon collating are no problem for ATF engineers.

... for profitable high-volume,

Web-fed Headquarters U.S.A. is ATF's new Mount Vernon plant.



for the broadest web-fed line

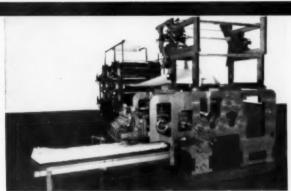


ATF Web-fed Flexographic units, such as the press shown above, are available for printing packaging material and producing line printing for charts and business forms. Speeds on ATF web-fed presses average 15,000 revolutions per hour or more.

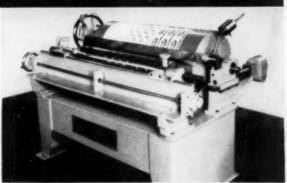


ATF Web-fed Gravure presses for package printing on paper, laminated foil, cellophane, glassine, tissue and light-weight board keep production high, changeover time low, and spoilage or web waste to a minimum. Every press is test run before delivery.

and experience in web-fed techniques



ATF engineering teamwork applies combined experience in offset, letterpress, flexographic and gravure to your webfed needs. Shown above is a high-speed folder connected to any offset press printing simultaneously two webs of paper and delivering complete folded signatures.



The broadest line of web-fed equipment ever offered by any manufacturer includes the ATF gravure proof press above, collators, carbon process machines, laminators, coating units and cylinder engraving equipment and other web-fed equipment. Write for details and booklets.

4.13

low-cost web-fed production

BETTER, MORE PROFITABLE

— PRINTING FROM THE

Gravure ... Letterpress ... Offset ... Flexographic



AMERICAN TYPE FOUNDERS, a subsidiary of Daystrom, Inc., 230 E. Sandford Blvd., Mount Vernon, N. Y.





NOBODY HAS AS MUCH EXPERIENCE AT MOLDING POLYETHYLENE AS



TUPPER!

The logical molder for you to consult regarding that product or package of yours which is to be made of polyethylene is Tupper. Tupper has done more than any other molder to make molded polyethylene a practical reality.

Aside from having designed, patented, and promoted successful seals, closures, and dispensers for polyethylene containers, the Tupper Corporation has vast experience in every phase of polyethylene packaging and polyethylene injection molding. This experience will be of major importance in improving your product, in reducing your costs, when Tupper goes to work for you.

Tupper's combination of experience, technical ingenuity, and the most modern equipment is at your service for the custom molding of your product in polyethylene. You can do no better than the best ... and the best at molding polyethylene is Tupper!



Tupper Seals are air and liquid-tight flexible covers. The famous Pour All and Por Top covers are designed for easy dispensing. They are made in sizes to fit all Tupperware containers.







When equipped with Tupper Seals, Tupper Canisters, Sauce Dishes, Wonder Bowls, Cereal Bowls and Funnels in various sizes are the most versatile reusable containers you have ever seen.

UPPER!

TUPPER CORPORATION

Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices: Farnumsville, Mass., Blackstone, Mass. Orlande, Fla., Montreal, P.Q. Showrooms: 225 Fifth Ave., N. Y. C.

Address all communications to: Dept. MP-3



About 150 United States and foreign patents and patents applied for, plus numerous trademarks and copyrights, cover the design and manufacture of the various types of Tupper Seals and other Tupper Products. Unauthorized manufacture of items covered by ucts. Unauthorized manufacture of items covered by Tupper patents will subject infringers to prosecution.



PNEUMATIC

COMPLETE LINES OR SINGLE UNITS

PNEUMATIC SCALE CORP., LTD.,
72 Newport Avenue, Quincy 71, Mass.
Also: New York; Chicago; Dallas;
San Francisco; Los Angeles; Seattle;
Leeds, England. Canadian Division:
Delamere & Williams Co., Ltd., Toronto.

Packaging and Bottling Equipment

Gaines

DOG MEAL



WHEAT

Pillsbury

CORN



for moisture control it's

VISQUEEN polyethylene film

Whether you need to keep moisture in or seal it out, the ideal film is VISQUEEN.

Specify it for this purpose.

Most manufacturers and users of flexible packages do.

VISQUEEN is tough—
won't tear, split, run or shatter.

VISQUEEN remains soft and pliable at extremely low temperatures or protects at tropic heat. Further reasons why VISQUEEN outsells all other brands of polyethylene.

Converters of VISQUEEN film are leading experts in design and manufacture of flexible packages. Their skills are backed by VISKING's technical knowhow. Let them help you obtain better packaging. The coupon will bring names of those serving your area.

VisQueen ® film ... a product o

THE VISKING CORPORATION
World's largest producers of polyethylene sheeting

Plastics Division, Terre Haute, Indiana In Canada: VISKING Limited, Lindsay, Ontario In England: British VISQUEEN Limited, Stevenage

Constance Bannister Photo

This advertisement is one of a series telling facts about VISQUEEN film.

ethylene but not all polygue EN film is all polygethylene is VISQUE EN Only VISQUEEN, produced by process of U.S Patents No. 2461975 and 2632206, has the benefit of research and resources of The VISCHIC Concession

of converters of VISQUEEN film serving my area. Only VISQ.

Send me names of converters

Torre Haute,

6

for the



THIS IS COMPETITION ...



AND HERE'S HOW IT WORKS!

Smart housewives prefer food products packaged in sparkling aluminum foil because they know that foil provides unsurpassed quality protection.

Foil is non-porous, non-absorptive—No dehydration, no flavor loss. No freezer burn in frozen foods. No drying out or shrinkage of moisture-bearing products. No shrinking, swelling or softening of foil when moist.

Foil reflects heat, light and resists harmful ultra-violet and infra-red rays. Cannot be stained by grease or oil. Nontoxic. Imparts no flavor.

Foil is pliable in production. Thus it's easy to handle, easy to print on. Takes reliable heat seal, economically. Can be printed, colored, coated, embossed, combined with other materials. Superior cold transfer characteristics for frozen foods. Excellent heat conductivity for baking.

Foil's extra product protection means that you can distribute your product over longer distances to profitable new markets.

We don't make packages, but . . .

There are many leading converters eager and qualified to tackle your packaging problem with you. These converters rely on Kaiser Aluminum as a major supplier because we are an integrated operation, producing foil of unsurpassed quality in a wide range of specifications. Our Engineering and Development Division is available to work closely with converters.

For names of leading converters contact the Kaiser Aluminum sales office listed in your telephone directory. Kaiser Aluminum & Chemical Sales, Inc. General Sales Office, Palmolive Bldg., Chicago 11, Ill.; Executive Office, Kaiser Bldg., Oakland 12, Calif.

Kaiser Aluminum

setting the pace-in growth, quality and service

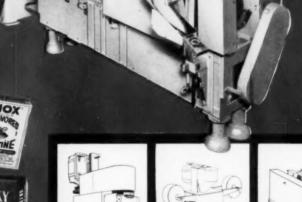
Fine Equipment for the Packaging Industry

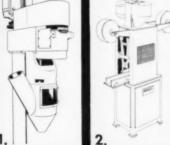
The Bartelt Packaging Machine, now in use packaging many of the nations best known brands, was Bartelt's first introduction of machine tool precision to the packaging industry. This packager (1) makes a bag from a roll of paper, film, or foil; (2) fills the bag accurately; (3) heat seals safely. Now Bartelt has added a precision cartoner which sets up the carton, inserts the desired number of bags, and glues or tucks the ends of the carton.

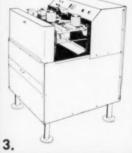
Bartelt also is making additional equipment illustrated below.

All are fast, automatic, and designed for long years of

e fast, automatic, and designed for long years of operation and low maintenance. Let us help you speed your packaging production. Write today.







(1) Bartelt automatic filler.

omatic filler. (2) New "small" packager.
(3) Accurate "Check-weigher"

ENGINEERING CO.

1900 HARRISON AVENUE ROCKFORD, ILLINOIS

"Machinery for Creative Fackaging"

Whether you call it "Catsup"





r "Ketchup"...



For your convenience these packers now use easy-on, easy-off

ALCOA HYTOP CLOSURES

Time was when you could measure the catsup consumption of a family by bent spoon handles, nicked knife blades and short tempers. Catsup tops were that hard to open and close.

That was before Alcoa HyTops, which are, for your convenience, being used by famous packers country-wide.

So, whether you call it "Ketchup" or "Catsup" you'll find it on any grocery shelf wearing this threaded cap that opens with an easy twist. And it seals again quickly, easily, securely. An exclusive Alcoa process tailors each HyTop to the bottle's threads—vacuum seals both top and sides. Purity and flavor are protected after each use. And of course, HyTop is made of pure nontoxic aluminum.

LOOK FOR HYTOP WHEN YOU SHOP



ALUMINUM COMPANY OF AMERICA 1710-C Alcoa Bldg., Piusburgh 19, Pa.



Watch "SEE IT NOW" featuring Edward R. Murrow on your local CBS-TV station. (Tuesday Evenings) ALCOA is telling
23 million people
about the
easy-opening
non-toxic
advantages of

ALCOA HYTOP CLOSURES

with a color advertisement
in the March 26th
Saturday Evening Post
and powerful
television commercials
starting February 1st
on "See It Now"
featuring
Edward R. Murrow

Tuesday Evenings, CBS Stations



ALUMINUM COMPANY OF AMERICA

shor

MIMILIANI

STANDARD-KNAPP GLUER & SEALER

Installation above illustrates the economy obtained in space and labor by using Standard-Knapp Short Hand Fed Gluers and Sealers, Compact 11½ length — ½ shorter than usual. Two units in this installation require one operator and handle different case sizes.

DOES A BIG JOB IN SMALL SPACE



Standard-Knapp's Short Model 429 Case Sealer is designed to get a lot of work done in a minimum of space. This compact unit, which both glues and seals manually fed cases, is only $11\frac{1}{2}$ long. Yet it handles a wide range of case sizes and will glue and seal top or bottom flaps or both at speeds up to seven cases per minute. Higher speeds are possible if desired.

Featuring close-coupled integration of gluer and compression units, the 429 Short is built to the same high standards for which Standard-Knapp equipment is famous. You can count on cases that are tightly, squarely and uniformly sealed — with printed matter unobscured. We will be happy to give you complete details.

Please write Dept. G, Standard-Knapp, Division of Emhart Mfg. Co., Portland, Conn., for descriptive material.



so smooth...so quick...it's PACKAGING MAGIC

STANDARD-KNAPP

Division of Emhart Mfg. Co.

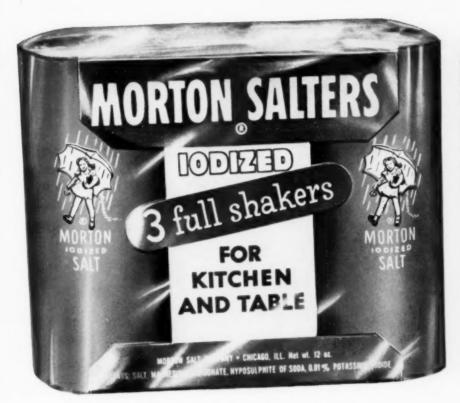
PORTLAND, CONNECTICUT

LATIN AMERICAN REPRESENTATIVES: American Steel Export Company, New York, N. Y.

LABELERS

PLUS other machines for a complete line or single unit.

Morton's meets the demand for greater convenience





Two Du Pont films help launch a successful package

Morton Salt Company says their new Salters unit -a packaged set of three disposable shakers-was developed to meet the growing trend "toward small-family packaging and additional convenience for today's busy housewife."

Two Du Pont films have helped make this modern fractional package an outstanding success. Each individual 4-oz. Salter is laminated with Du Pont Acetate Film for gleaming eye appeal and protection against handling and scuffing. And the entire package is overwrapped with Du Pont Cellophane to add the sales appeal of sparkling visibility, to provide moisture proof protection, and the convenience of bundling.

This is another example of how Du Pont offers the right film for the right job . . . with over 100 varieties of four basic films. You can count on Du Pont for help in developing a selling package suited to your particular needs. See your Du Pont representative or a converter of Du Pont films, E. I. du Pont de Nemours & Co. (Inc.), Film Dept., Wilmington 98, Delaware.

INDUSTRIAL FILMS CELLOPHANE . POLYETHYLENE

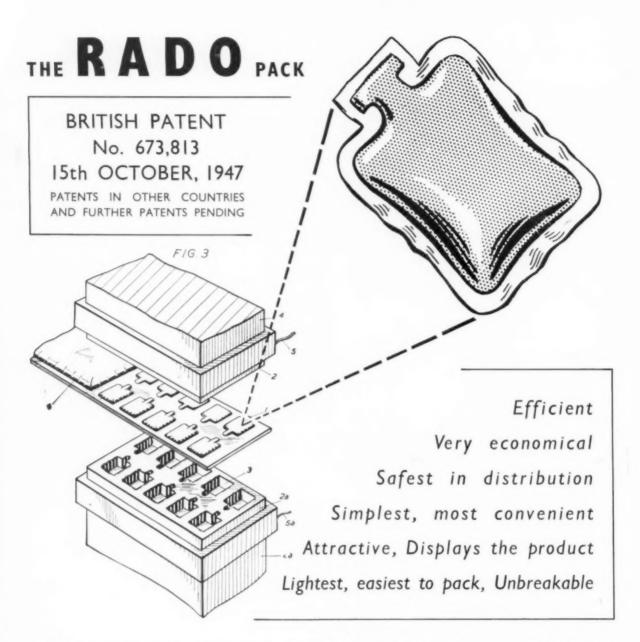
DU PONT

PACKAGING AND

ACETATE . "MYLAR" POLYESTER FILM



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



ALL the advantages of Unit Packaging are embodied in Packs produced by the RADO SYSTEM—based on the RADO patents—the only fast, efficient way of producing such packages. Further interesting developments pending; ask for details NOW!

We will pack YOUR product in packages of YOUR own design, decoratively emboss them to YOUR wishes, print them attractively to YOUR requirements. Almost ANY kind of liquid, semi-liquid or pastelike product can be successfully packaged by the RADO SYSTEM.

PACKAGING SERVICE STATIONS IN MANY COUNTRIES

RADO PACKAGING SYSTEM

TECHNOPOL LABORATORIES LTD

Tel: CLErkenwell 9452-9453 212 St. John Street, LONDON, E.C.I, England Cables: Telabor, London

British Patent Nos. 599,174, 599,183 and 675,073

U.S.A. Patent Nos. 2,530,400 and 2,517,027

PATENTS IN 36 OTHER COUNTRIES AND FURTHER PATENTS PENDING

TAPE TEXCEL TAPE TEXCEL TAPE TEXCEL TAPE TEXCEL TAPE TEXCEL TAPE

against breakage

CLIMATE CONDITIONED to unroll easy...stick tight



PRODUCT OF PERMACEL'TAPE CORPORATION, NEW BRUNSWICK, NEW JERSEY

a Johnson Johnson company

10,000 packaging machines with this label



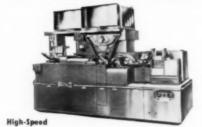
perform dependably in more than 75 countries

• In almost every country in the world there are packagers who boast of the efficiency, speed and economical operation of their Arenco packaging machines. These Swedish-manufactured machines are sold and serviced everywhere by permanent, local representatives.

During the past thirty years the fine reputation of precision-engineered Arenco equipment has grown and grown. Today, the name "Arenco" on any machine is your guarantee of trouble-free design, reliable construction, dependability.



Collapsible Tube, Jar & Vial Filler—55 per minute with highest accuracy



Cigarette Packager—counts, forms packages, fills, seals.



Automatic Filler & Sealer for powdered or granular products in bags or cartons



Fish Cleaner removes heads, tails, intestines

Detailed information on an Arenco machine to do your job will be sent on request.



Representatives:

ARENCO Machine Co.

25 West 43rd Street, New York 36, N. Y.

R. P. Anderson Co., 317 Texas Bank Bldg., Dallas 2, Texas
Tom McLay, P. O. Box 14, Port Deposit, Maryland
Packaging Equipment, Inc., 2013 Olive St., St. Louis 3, Missouri
Kruse Packaging Machinery, 5807 W. North Ave., Chicago 39, III.
J. W. Leser Co., 4408 W. Jefferson Blvd., Los Angeles 16, Calif.
P. S. Equipment Co., 2281 Scranton Road, Cleveland 13, Ohio

Lustour-Brilliant Label



MANUFACTURED BY SWIFT & COMPANY - GENERAL O

NEW GLEAMING WHITER WHITE PAPER eliminates varnish . . . "off colors" STAYS WHITE ... SPARKS IMPULSE SALES!

> LUSTOUR-BRILLIANT LABEL is sparkling white with a hard, mirrorlike finish. Resists abrasion, dust, soiling-no need for varnish! Perfect for impulse selling-compelling color now comes alive in ultra-fine tones, thanks to Lustour creative and technical skill in gravure printing.

ASK our nearest office for complete information!

7 N. BRENTWOOD BLVD. . ST. LOUIS 5, MO. VOLUNTEER 3-1752

NEW YORK

PITTSBURGH

SAN FRANCISCO

SEATTLE

COPYRIGHT

MARCH 1955

69

it's easy

ORTENING



NING

FATS HAN 1/100 OF 10% AS PRESERVATIVES

FICE . CHICAGO, ILL.



Martha Logan's Swiftning "M

Yield: Al 2 cups Swift'ning* 9 cups sifted all-purpose flour 1 tablespoon salt

1 tablespoon salt

Combine sifted flour, salt, and baking powder. Stir well, Si a large bowl, pan, or cnto heavy paper. Add Swift'ning finger tips or pastry blender to distribute Swift'ning's through ingredients until the mixture resembles coarse cornte-Make Your Own'Mix is now ready to use or store in a canister on your pantry shelf.

This "Make Your Own'" Mix was developed especially fe "quick-mix" Swift'ning.* We can't promise success with other shortening.

*Swift's trade mark for Shortening.

*Swift's trade mark for Shortening.



NEW GL STAYS W

NEW YORK

MARCH 1955

Lustour-Brilliant Label

ig "Make Your Own" Mix

recipes using Swiftning Make Your Own" Mix

SEND FOR YOUR BOOKLET

address and send to Swift'ning-P.O. Box 5985—Chicago 77, III.

COPYRIGHT

GLEAMING WHITER WHITE PAPER

eliminates varnish . . . "off colors"

S WHITE ... SPARKS IMPULSE SALES!

LUSTOUR-BRILLIANT LABEL is sparkling white with a hard, mirrorlike finish. Resists abrasion, dust, soiling-no need for varnish! Perfect for impulse selling-compelling color now comes alive in ultra-fine tones, thanks to Lustour creative and technical skill in gravure printing.

ASK our nearest office for complete information!

7 N. BRENTWOOD BLVD. . ST. LOUIS 5, MO. VOLUNTEER 3-1752

SAN FRANCISCO

SEATTLE

ANOTHER TRIUMPH OF GEORGE F. MOTTER'S SONS

new rotogravure

FOR FAST, ACCURATE, QUALITY PRINTING

This versatile new George F. Motter's Sons rotogravure packaging press produces fast, accurate, high-quality printing on board, film, foil, or papers. And—its surprisingly low initial cost and long-range operating economy—on both long and short runs—will help you meet today's competitive conditions.

This press incorporates outstanding technical advances in both design and performance. It is the culmination of long experience in the rotogravure field by designers and engineers in the George F. Motter's Sons organization. Its clean, modern appearance, sturdy construction and mechanical dependability reflect the pride of craftsmanship that has been traditional with George F. Motter's Sons for over 100 years.

Our engineers will be glad to discuss application of this new packaging press to your requirements.

FEATURES YOU HAVE ALWAYS

VERSATILITY—Prints bags, boxes, carrons, envelopes, labels, or wrappers—on board, film, foil, or papers.

FLEXIBILITY—Wide range of circumferences and widths to meet every need.

ECONOMY - Low initial cost and long-range operating economy on both long and short runs.

WALK-IN FEATURE—Permits ready access to doctor blade, impression cylinder, and inking system without reaching, stooping, or crawling.

DRYING SYSTEM—Advanced design provides topspeed drying on all materials, at relatively low temperatures.

PARALLEL REGISTER—Precision adjustment up to 20", manual or photoelectric.

SIDE REGISTER—Convenient dual mechanism provides rapid cylinder centering and precision side register.

DOCTOR BLADE—Positive adjustable stops provide precision setting of position, angle, and pressure; permit quick, foolproof resetting after lifting for cleaning or inspection. Uniform color results assured.

INK APPLICATOR—Positive adjustable stop provides accurate setting and resetting. New-type distributor insures uniform, adequate supply at all speeds.

IMPRESSION CYLINDER—Convenient visual indication of printing pressure gives constant check on operation. Adjustable pressure-limit control provides for setting, resetting, and maintaining desired pressure for best results.

GEORGE F. MOTTER'S SONS
MAIN OFFICE AND PLANT — YORK, PENNSYLVANIA

ENGINEERING -

packaging press

- AT LOW COST

BE SURE TO VISIT
GEORGE F. MOTTER'S SONS
AT THE
PACKAGING SHOW

BOOTH 1236



WANTED -

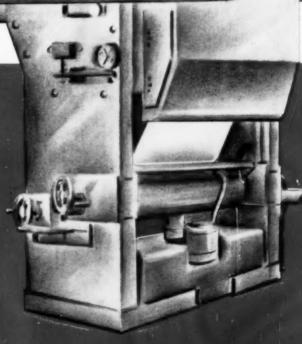
TENSION MAINTENANCE—Special design maintains constant web tension when impression cylinder is raised or lowered.

QUICK CHANGEOVER—Easy removal and replacement of printing cylinder and entire inking system cuts down-time between production runs.

MODERN STYLING—Clean functional design will enhance the appearance of your pressroom.

RUGGED CONSTRUCTION—George F. Motter's Sons craftsmanship, traditional for over 100 years, assures long life and mechanical dependability.

OTHER FEATURES—Let our engineers explain the many other features of this new press which will enable you to do more jobs—faster, better, and at lower cost.



Single unit of the new George P. Motter's Sons integravare packaging press. Units may be combined to print as many colors as desired on one or both sides of the web. The press is built for use with slitters, rewinders, sheeters, cutters and creasers, or folders as required.

DESIGNERS AND BUILDERS OF PRINTING MACHINERY

Quality Craftsmanship Since 1838

is buy appeal!

Our job is quality
labels tailored to your
quality products . . . like this
SKRIP eye-catcher on SHEAFFER'S
fine writing fluid. Use our design and
production know-how to give your
products i-APPEAL!

For the right labels to do the job right, write to

Saramount i.APPEAL.

PARAMOUNT PAPER PRODUCTS COMPANY

4401 North 23rd Street

Omaha 11, Nebraska

A Complete LINE!











- 1. PLAIN ALL-FIBRE CAN . . . Bottom firmly glued on, and top assembled loosely.
- 2. SLIP COVER CAN . . . Metal bottom seamed on, slip cover top of tin plate.
- FRICTION PLUG CAN . . . Metal top ring with tight fitting metal lid; metal bottom.
- 4. TURN-SIFTER TOP CAN . . . Friction plug type bottom and metal revolving perforated top.

- SCREW TOP CAN . . . Metal threaded ring with screw cap top; metal bottom.
- METAL END TELESCOPE CASE

 Three or two-piece construction. Available also with paper caps or ends curled and disced.
- 7. UNIT PACK CAN . . . Metal bottom seamed on, metal top shipped separately for seaming on by packer. Civilian and military uses.
- 8. CONVOLUTE LABELED CAN... Available in round, square or oblong shapes.

LINERS . . . Moisture and grease resistant and anti-corrosive liners can be provided for additional protection.

LABELS . . . Strip labels, pre-printed wrappers, direct printing, or plain color wraps.

CLEVELAND TUBING

We manufacture tubing of every kind, type and size in chipboard, jute or kraft... in diameters up to 24"... in lengths and wall thicknesses as desired. Also all electric grades of tubing.

WHY PAY MORE? For the best . . . call CLEVELAND!

The Cleveland Container plant nearest you for a copy of our new PACKAGING folder.

Visit our Exhibit No. 1133 at AMA National Packaging Exposition, April 18-21, at International Amphitheatre, Chicago.

CLEVELAND CONTAINER (6 6201 BARBERTON AVE. CLEVELAND 2, OHIO • All-Fibre Cans • Common Metal and Paper Cans • Spirally Wound Tubes and Cares for all Purposes

Spirally Wound Tubes and Cores for all Purposes

**
PLANTS AND SALES OFFICES: Cleveland, Chicago, Detroit, Memphis, Plymouth, Wisc.,
Ogdensburg, N. Y., Jamesburg, N. J. * ABRASIVE DIVISION at Cleveland.
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MODERN PACKAGING

March 1955, Vol. 28, No. 7

The rush to

FORMED PLASTICS

With new materials and techniques, it's an exciting new field for the kind of packaging inventiveness that makes sales T he formed plastic container appears to be on the verge of a new boom in packaging and merchandising.

For one thing, there have been unusually lively developments in plastics-forming techniques and applications during the past 18 months and it can be stated with certainty that packagers have many additional advances on the drawing boards, in pilot production or newly on the way to market.

The formed-plastic container has been with us for a long time, but the growing importance of vacuum forming has been a reactor that has set off a chain of new developments. Vacuum forming is important because it has helped channel the rigid plastic

See "Vacuum-Formed Plastics," Modern Packaging, Feb., 1954, p. 108.

WORKING PACKAGE for copper terminals is achieved by combining pressure-formed acetate "show case" and die-cut folding card of paperboard. Back flap of the eard slides up and down to permit dispensing of tiny parts one at a time.





DISPENSING WALL CARD is simply made by adhering vacuum-formed plastic sheet to card. Sheet is formed to hold Anacin tins in two chutes. As bottom tin is removed from die-cut aperture at bottom, stack moves down.

package into the green pastures of low-cost, self-service merchandising.

The process is helping plastics make new progress in packaging because it permits a tremendous reduction in the time and cost of tooling up for package production. It affords new freedom in package design, particularly in contoured and three-dimensional constructions. It offers protection and transparency with the minimum use of material. It permits use of low-cost molds; in some instances the product itself becomes the mold.

Vacuum forming, basically, consists of heating a sheet of plastic and then pulling it by suction (atmospheric pressure) over a male mold or into a female mold. A multiple mold can be used to produce many packages in a single cycle from a single plastic sheet. Nevertheless, the hand-fed process is relatively slow. Undoubtedly, vacuum-forming equipment will soon be available for web-fed, completely automatic operation.

Pressure forming

A method similar to vacuum forming is already achieving high-speed, web-fed, mechanized output. This forming method uses air pressure of about 75 lbs. (five times the force of vacuum pressure). As a result, greater precision and uniformity are achieved, it is claimed.

Both vacuum and pressure forming are included in this survey of developments, for both methods are bringing packagers into an era of low-cost, throw-away, rigid-plastic containers.

In fact, that era is already dawning. Our survey of plastics producers, machinery manufacturers, package fabricators and package users reveals that the entire field of formed plastics is ablaze with developments along an extensive and extremely fluid front in packaging.

Among the highlights are:

New variations in package forms
-including boxes, cups, dishes, compartmented units, contoured container
shapes, new types of closures and
special dispensing packages.

- New techniques in attaching bubbles or domes to cards—heat-sealed domes, automatically applied labels that anchor the bubble and an impressive new "skin pack" that does the forming and sealing both at the same
- New ideas in platforms and separators—flocked-plastic platforms for luxury items, multicavity separators for cosmetic sets and duplex display grips for deal packaging.
- New production techniques continuous forming, selective heating, improved scoring and better heat sealing.
- New freedom in choice of materials—a deep-draw vinyl, first use of polyethylene, new types of packages formed from acetate, butyrate and polystyrene.
- New and rapidly expanding success of formed-plastics packages in various product fields—for hardware, for plumbing supplies, for pharmaceuticals, for novelties and foods.
- New achievements in package design—including the first pre-printed formed packages, the use of textured metallic finishes and new examples of packages that interpret promotional themes.

These developments are not only extensive in their range, but they have come to the front at an exceedingly fast pace. One good reason for this is the fact that the entire field of formed-plastics packages has terrific implications for self-selection merchandising. Merchandising leaders like Sears, Roebuck & Co. have helped to prove that there is terrific consumer appeal in hardware and similar items intriguingly packaged in transparent vacuum-formed containers with the assurance of product protection that these packages convey.

Just how potent a transparent formed-plastic package can be is revealed by the experience of a notions manufacturer who formerly sold 200,000 of his specialty items a year. In a new, simple but efficient formed transparent package, the item now sells at the rate of 100,000 a month. This success story is not untypical in the onward rush of formed plastics today—except that for some products the figures have been in the millions.

Of course, not all formed-plastics packages are a starred success. The best virtues of formed plastics will not help the packager who ignores the basic rules of good package design. The new methods, while providing



packagers with greater opportunities, have actually placed an even greater responsibility of the designer to explore and then define the advantages (as well as the limitations) of this new medium.

Formed plactics offer interesting potentials from the standpoint of economy. Some elementary package components are being produced for as little as \$3 a thousand, or one-third of a cent apiece. In general, the finished-package cost range appears to be in the neighborhood of one to four cents. One packager reports that a formed-plastic food package costs him about 30% less than a moldedplastic package. Then there is the experience of Sears, Roebuck in the development of a vacuum-formed tooth-brush package for a one-cent, two-brush combination deal. The single-unit rigid-plastic package costs approximately six cents. The new, larger, two-unit formed-plastic package, Sears reports, "does a better job and supports a special event at a greatly reduced cost."

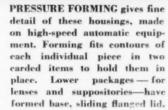
New package forms

The transparent plastic dome or "blister" was the first and is still the most widely used application of vacuum forming in packaging. A tour of the plants of plastic formers today will show that many new box, cup and dish shapes are about to come on the market. These formed-plastic packages are not intended primarily for mounting on cards. Instead they have a snap-in, snap-over or sliding lid closure. In some instances the cover is undercut and in other instances the plastic container has a



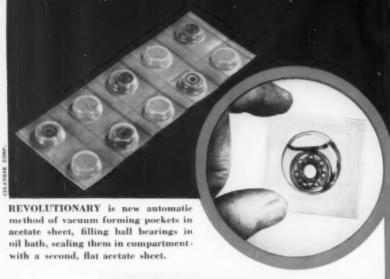
IMPULSE APPEAL extends to plumbing supplies when replacement parts are beautifully encased in vacuum-formed plastic on a self-selling card. In this typical kind of carding, the cards fold over and are adhered back-to-back to lock the merchandise bubble securely into place.

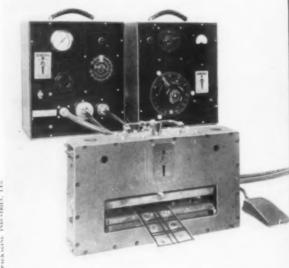






SKIN-TIGHT FIT is feature of this new technique by which plastic skin is completely contoured to item and sealed to thermoplastic-coated card in one operation. In some cases, part projects through slot in card to position it; in others, die pins position it during forming. Screws are held skin tight.





IMPULSE-SEALING equipment specially developed for ball-bearing package. Each compartment, framed by crosswise and lengthwise scals, is easily cut off from strip.

FLOCKING APPLIED to vacuum-formed, contoured plastic box platform gives a luxury look to products at low cost.

TEXTURED EFFECTS—leather, wood, etc.—are given thin, vacuum-formed plastic sheet. Lord Calvert canister wrap has metallized gold finish, with decorations formed in.



formed ridge or groove to hold the cover in place.

One package of this type is being used in the merchandising of jewelry. Another package has been designed for a pair of baby shoes. A third and very interesting new-type transparent package, designed for a face powder, is shaped like a conventional set-up cosmetic box, but has perforations so that it can be used as a puffer. The bellows action is provided quite nicely in this type of package because it is semi-rigid and because its closure is a snap-in lid that is securely gripped by a groove in the rim of the container. When the user presses his thumb against the snap-in lid, powder is puffed from perforations in the face of the container.

Many of the packagers who are working with the snap-lid type of package admit that they have been thinking of applications for foods. A precedent, of course, has already been established for institutional packages of jam and jellies packed by Kraft Foods in small, individual vinvl cups sealed with film.2 The newer formed packages, however, are coming out in a range of larger sizes practical for consumer-type packages of food. The development of the snap-in or snapover formed-plastic lid is bringing these food packages nearer to commercial reality.

A more direct outgrowth of the Kraft Foods idea is a vacuum-formed dish of 20-mil polyethylene, filled with creamed cottage cheese in 1-lb. quantities by the Crescent Cheese Co. of Montreal and heat sealed around its rim with a printed sheet of polyethylene-coated cellophane. Disposable and said to be as low in cost as a paper container, it shows significantly the possibilities of formed semi-rigid polyethylene-possibilities which are only beginning to be explored. Because of its many interesting aspects. this Canadian development is covered in a separate feature article in this issue (see "Polvethylene Formed for Food," p. 106).

Another new type of package that vacuum forming has made available to packagers is a one-piece transparent box that incorporates its own spring hinge and clasp. This package has been adopted by Whitman Publishing Co., manufacturers of a Chinese Checkers game. The transparent, low-cost box is a handy container for

² See "Portion Control," Modern Packaging, April, 1952, p. 90.

marbles that come with the game. This type of container would appear to be equally practical for notions, small tools and fishing supplies. The hinge and clasp features are typical of the special constructions that can be featured in a low-cost formed-plastic package. Previously, plastic packages incorporating these features have been limited—because of their cost—to use with more costly products.

Considerable interest is being shown in the formed-plastic lid to be used as a cover for liquid-tight paper containers. The lids formed from transparent acetate have a turned-over rim. The lid is of a plug-type construction so that it inserts into the liquid-tight container. The visibility feature afforded by these plastic lids offers a significant merchandising advantage for delicatessen items and dairy products.

The combination of paperboard and plastic is, of course, a good formula for merchandising effectiveness with economy. Again referring to the experience of Sears, Roebuck, whose authority in this new field is widely respected, we find a Sears spokesman stating that the company always combines some form of board or card stock with the plastic element. The paperboard permits a printed message and Sears believes visual and verbal identification must be teamed together-to tell the customer what the item will do, why the product is good and how it should be used and cared for.

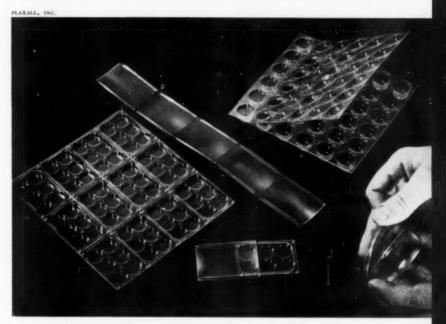
Standard Motor Products, Inc., Long Island City, N. Y., manufacturer of small copper terminals for connecting wires, has successfully combined a plastic box and a paperboard folder to produce an ingenious dispensing package. A sliding panel in this relatively simple package opens a window so that the terminals can be removed one at a time. A great many small items—hardware, industrial parts, pills, candy and notions—conceivably could use this type of functional, visibility package to good advantage.

An extremely interesting and possibly far-reaching development in formed-plastic packages is a compartment pack now being tested for bearings. In one version of this package 10 pockets are formed in a sheet of cellulose acetate. The bearings are inserted in the pockets. The pockets are filled with oil. Then a flat sheet is heat sealed over the compartmented section so that the oil-packed bearings

are individually locked in their own pockets. The heat seaing is done with a specially controlled impulse sealer, both lengthwise and crosswise of the strip. Each pocket is thus individually framed with a rectangular pattern of seal lines and can be cut away from the rest of the multiple package, leaving the remaining bearings intact. Each bearing is fully protected in its bath of oil until removed from its individual compartment. Although bearings—one of the most difficult products imaginable to package for long-term protection—were the first items

package is one of formed plastics' solid successes. As recently as a year ago, the major methods of attaching a plastic dome to cards included the staple, cement bonding or the use of a die-cut card with cohesive backing, in which the die-cut card is folded over on itself, locking the flange of the plastic dome in position.

New and faster methods are now being employed with great success. One practical method is to heat seal the plastic dome to a plastic-covered card. E. R. Squibb is using this method with its family pack of five



THREE VARIATIONS of pressure-formed plastic packages: At left, compartmented trays with sliding covers; parts are scored for easy separation. Right, above, a sheet of pockets with corresponding sheet of plug-type closures. Right, below, in hands, individual container with snap-in lid; this thin-walled, flexible package is suggested for use as a powder puffer, with perforation, and also as an inexpensive food container.

considered for this type of package, interest has also been directed toward using it for all kinds of small precision parts.

A unique packaging item made practical by formed plastics is a thin, bobbin-like reel used for fishing lines and leaders. Two formed disks joined at the center hold various length of line. The outer edges of the disks are so close together that they exert a gripping action that controls the unwinding of the line. This type of package would appear to be practical for thread, tape and possibly for flexible strip-packaged items.

The card-and-bubble or "blister"

tooth brushes. The merchandiling card is laminated with a sheet of acetate. The top sheet, with five cavities filled with brushes, is placed over the card and a heat sealer welds the two sections of the package together.

A somewhat simpler approach, now said to be near commercial application, calls for the use of a standard type of labeling machine to apply a label against the back of a card, anchor the flange of the plastic dome and lock the dome into its die-cut aperture.

One method that the blister-pack packagers have found practical as well

3 See Modern Packaging, Oct., 1954, p. 118.

PRE-PRINTED DESIGN when pressure formed converts snap-in base of this Bambi shoe package to a colorful three-dimensional wall plaque for nursery. Transparent top also is formed. Design appears on bottom of the package.





Forming of printed sheet gives striking color relief

FORMED DISPLAYS offer a new world of three-dimension and multicolored realism to designers. Rheingold's highly successful snowman is vacuum formed from vinyl sheet, pre-lithographed with full-color artwork distorted for final 3-D effect.

as effective is to employ a sliding clasp that locks the plastic sheet to the merchandise card. In its simplest form, the sheet is formed with a dome to hold the product, then two parallel edges of the sheet are bent over to provide grooves that slide over the edge of a display card. The sliding clasp lends itself to a wide variety of attachments, since it can be anchored to various die-cut projections that may be cut in the card. The slide attachment is used for pills, capsules and even for collapsible tubes.

Another attachment method that is certain to create considerable interest will be found in the packages that the Champion Hardware Co., Geneva, Ohio, has developed for its 21 different kinds of hardware. This company has installed vacuum-forming equipment in its own plant. The product itself is used as the mold and the plastic sheet is sealed to a thermoplastic-coated card during the forming operation. Champion forms 10-mil buty-

rate sheet, but it is also experimenting with other gauges and with other materials. The company uses a single thickness of card and is able to employ a fairly thin gauge of plastic so that material-wise the method is unusually economical. The feature of this company's operation is the fact that a skin-tight fit is produced.

The skin-tight method results in the nearest thing to "invisible packaging" vet produced. Moreover, the packages pioneer a new type of forming technique in that the pre-printed, thermoplastic-coated card becomes part of the forming procedure. First the card is placed in the vacuum-forming machine. Then the hardware parts (which become their own package mold) are placed on the card. The plastic sheet is placed on top (like the top of a three-layer cake). The heating hood is pulled over the sheet to soften the plastic into complete pliability. Then the vacuum is applied. The softened sheet is pulled down over the hardware parts and at the same time is sealed to the pre-printed card. In effect the hardware parts are laminated between a transparent, almost invisible "skin" and the paperboard card.

The cards used by Champion are die cut and are perforated so that special dies or positioning pins extend through the card, creating pockets into which screws or odd-shaped parts can be placed. The sheet is pulled down over the parts and sealed to the card. In some instances, in this patent-applied-for method, sections of the hardware parts are allowed to insert through the card and plastic is formed only over that portion of the object that is mounted above the face of the card.

Champion's products can be placed on the card so that they are positioned beneath the plastic sheet exactly as they should appear when installed. Thus the shopper "sees the directions."

There is almost no limit to the various shapes and contours that can be handled in vacuum or pressure forming. Charles of the Ritz employs an entire insert platform for a cosmetic kit formed from a single sheet of plastic. This molded-to-shape pink acetate insert holds five polyethylene bottles, a box of face powder, a lipstick and a rouge compact. Each item is neatly nested in an exact-fitting cavity.

Low-cost formed-plastic parts have also been specially designed for deal packages. One such package holder is designed to display two bottles of different sizes.

Practically any rigid product or package that needs some special kind of stand, platform or separator will find in formed plastics a likely answer. Moreover, it is practical to flock these various components and special metallic or textural effects can be employed. Thus a grained, textile or leather finish can be created to help interpret an appropriate merchandising or product theme.

Methods and equipment

So far as is known, there are no continuous-line, automatic vacuum-forming operations for package components in this country at this time. Pressure forming, on the other hand, has employed continuous forming for some time. This has been feasible because pressures up to five times greater than vacuum are used. Pressure

formers have been spurred to develop faster tool-up and less expensive types of molds, Actually, vacuum formers and pressure formers have benefited from the contribution each is making to the field and this will undoubtedly continue to be true for some time to come.

One of the problems in vacuum forming has been uneven distribution of heat to various parts of the formed piece during the forming operation. Some fabricators have attacked this problem through the use of selective heating. In other words, they are using metal screens—copper or aluminum—to intercept the flow of heat and thus shield the parts of the sheet that receive the most stress from being softened too much in relationship to the rest of the piece.

As a result, vacuum forming can attempt deeper draws and more intricate constructions than were practical previously. This advance has implications for the user of specially constructed platforms and for packagers requiring fairly large containers or complex structural features.

Certainly one of the greatest advancements in plastics forming is the improvement in the use of heat-sealing techniques. As previously mentioned, an impulse sealer is being used in making a new type of compartmented bearing package. The Squibb tooth-brush package also became more practical because heatsealing equipment was developed to cover a longer length of sealing area. High-frequency sealing has extended the practicability of heat sealing contoured packages and it can be expected that this method will be called upon even more extensively in the future.

Materials

Manufacturers of materials used in vacuum and pressure forming have been giving increased attention to the special requirements of these methods and to the properties that will be needed in the future.

The new vinyl sheet developed especially for deep-draw forming is expected to find applications in the forming of liners for paint cans and pails—a big-volume field that has not previously been touched by formed plastics. The vinyl sheet, like most thermoplastics, has the property of returning to its original flat shape when heated. For this reason, a sheet can be formed and decorated by hand



DOCTORS' SAMPLES, always in search of dramatic presentation, have a new medium in formed plastics. Small mailing piece at left has folder slipped through base of slide box in which each pill is secured by shape of plastic. Bubble for Cortril secures sample tube to card. Shaped slide box for Premarin (right) inserts through die-cut opening in card to look like a three-dimensional bottle section. At bottom left, realistic demonstration is provided by putting one Ciba tablet in die-cut opening of printed card which is covered by pressure-formed, transparent plastic.

and then be reheated to return to its original flat form, thus producing a master design. The master design is then transferred to a plate or screen so that the distorted design can be printed on flat sheets prior to forming.

Polyethylene is just beginning to find its place in the vacuum- and pressure-forming fields. Because of its versatile and wide-range packaging properties, polyethylene may eventually become one of the most important formed sheets. Vinyl and high-impact polystyrene are receiving increased consideration in the food field. Acetate and butyrate have already established themselves in the formed packaging done to date.

Product fields

Hardware manufacturers have discovered the wonderful boost a small, obscure and hard-to-handle product receives from a formed-plastic package. Many different types of hardwares appeared in formed-plastic packages last year. Sears, Roebuck, for example, sees in formed packages an "opportunity to present as a unit items that have several component parts, eliminating sales slowdown, housekeeping problems, merchandise

shrinkage and customers unhappy with incomplete merchandise." Sears has adopted formed-plastic packages for hinges, door jams, tune-up kits, drill-bit sets, Allen wrenches and many similar items.

The Franklin Metal & Rubber Co., Philadelphia, has developed a formed (This article continued on page 196)

> SNAP-IN BASE of paperboard in a vacuum-formed transparent housing makes a glamorous yet inexpensive package for jewelry and other gift items. Groove in cover locks the base into place.



Now comes the



A MEASURE OF ALLURE is at her fingertips with the new lipstick-size Lentheric perfume aerosol. Pressing on cap dispenses just the right quantity for one application—and no more. Same new principle of valve is applicable to conventional sizes and types of aerosols.

HIGH-FASHION DESIGN and purse-size convenience—new to aerosols—add appeal to Lentheric's Dew-Dab Pursette. Thanks to the metered valve, each tiny aerosol provides 200 applications of perfume. The gold-and-black metal aerosol is packaged in a self-hinged molded polystyrene box, resting in the die-cut center of a printed, curved sheet of acetate which seems to suspend it in air.

New challenges and opportunities in aerosol packaging seem certain to stem from the innovations incorporated in the Dew-Dab Pursettes recently introduced by Lentheric, New York.

These purse-sized perfume aerosols, scarcely bigger than a lipstick, feature a new type of valve that automatically dispenses a measured quantity of perfume and then shuts itself off. The convenience and economy implications of this new type of valve—which is not limited to the small-size aerosol—will be readily recognized and for some products it appears that quantity-controlled spraying from a propellant-powered package may, in the future, be not only a convenience, but a necessity.

For example, in the case of the Lentheric Dew-Dab—which appears to be first to use the metered valve—the expensive perfume dare not be wasted through over-use. When the valve is pressed, only the correct amount of perfume mist for one application is released. Prolonged pressure on the valve is not accompanied by continuous spray. Actually, once the valve is depressed, it must be released to recharge the measuring chamber in the valve assembly.

The new possibility of accurately measured aerosol dispensing suggests the practicability of the valve for other personal products and especially for pharmaceuticals, where correct amounts are critically important. Even the more conventional types of aerosols-insecticides, shave foams, etc.—may find the meter valve advantageous to insure economical use and thus make these products more popular from the standpoint of "mileage." Actually, the metering



metered mist

Lentheric's perfumes pioneer a unique new aerosol valve that dispenses just so much at each push of the button

valve may, it is estimated, make some aerosols go twice as far.

The Lentheric perfume container is an aluminum cartridge designed to be breakproof, lightproof, airproof and leakproof. The container holds approximately 1/8 oz., or about 10 cc., of perfume and Freon 12 in formulation. The meter valve is designed to exhaust this quantity in about 200 sprays. The correct quantity for a single use was carefully determined, for too much diffusion is not desirable where a perfume application is concerned and best results are obtained with a fine mist applied from a distance of as little as two inches. In this way, no portion of the spray wastefully escapes into the air.

The metered valve is rather complex in design and construction, but the operation is basically simple. A cylindrical chamber or reservoir in the dispensing device (see diagrams) is valved top and bottom.



COMPONENTS of tiny aerosol include, from left: fibre ring which fits inside metal cap to limit downward travel of cap; molded nylon fitment for the dispensing orifice in cap; molded polyethylene fitment which seats on hollow, sliding valve stem and directs flow of aerosol to orifice; the gold-finished metal cap; the aluminum "bottle" with valve in place and, between thumb and finger, a complete metering valve mechanism and polyethylene dip tube. Cap is not removed in use. When cap is pressed down, measured quantity of spray emerges from nylon orifice; when cap is released, measuring chamber immediately refills.

When the top valve is opened by pressing the discharge button, only the pre-filled contents of the reservoir are discharged. When the button is released, the bottom valve is opened and the reservoir refills, ready for the next application.

The top, or "discharge," valve operates with a simple sleeve-type, sliding action. In effect, it corresponds to the single valve opening in the conventional type of valve, except that it discharges spray only from the reservoir or metering chamber and

not from the aerosol proper.

The bottom, or "fill," valve permits the flow of product from the dip tube into the reservoir. The "fill" valve is shaped like a bolt, the stem of which inserts into the dip tube and the head of which covers the opening of the tube to form a seal when depressed. When this bolt-shaped member is completely raised, the dip tube is free to discharge the product into the reservoir. When the member is completely depressed, during application, the product cannot escape from the dip tube or aerosol proper. The aerosol cannot continue to spray after the contents of the reservoir are discharged, for the head of the "fill" valve is being pressed against the neck of the dip tube, effecting a seal.

The stem of the fill valve (see closeup diagram) steps down in size, in two gradations. The larger Diameter "B" permits only vapor to escape; the smaller Diameter "C" permits liquid fill. Thus the fill valve is a threestage device providing (1) complete shut-off, (2) vapor passage only and (3) free flow of liquid. The purpose of the vapor-passage stage, which comes as the valve stem is half-way down during the discharge action, is to cause complete evacuation of the reservoir and assure no-drip operation.

Obviously, design and performance of the valve are critical in the new type of aerosol. The valve assembly and its components are necessarily minute and this results in very close tolerances. The avoidance of warping, swelling or binding of valve parts is especially important because of the metering function of the valve.

In filling, the aerosols are gassed and the valves crimped into the neck of the aluminum cartridge simultaneously.

The Lentheric spray-head assembly, which is fitted into a deep-skirted, telescope-type brass cover, consists of a polyethylene collar and a nylon nozzle. The collar is so constructed that the valve is always ready to operate correctly whenever the cover is pressed down. A paperboard collar inserted inside the cover prevents the cover from being pressed down too far.

Lentheric is packaging four fragrances in Dew-Dab containers—Dark Brilliance and Adam's Rib selling at \$5 each, and Tweed and Miracle at \$4. For comparison purposes, the retail price of the same perfumes in 1-oz. quantities in conventional bottling would run from about \$10 for Tweed to about \$18.50 for Adam's Rib.

The Lentheric aerosols are smartly designed with a contrasting "gold" cap and a base around which is wrapped a gold-and-black paper label. The lipstick-type container looks little like the conventional aerosol.

The Dew-Dabs are attractively packaged individually in clear polystyrene re-usable boxes.

The molded boxes are self hinged and have a snap catch in front. The gold-and-black aerosol rests in the diecut center of a curved sheet of acetate which is printed with a white spiral design, giving the effect that the aerosol is airily suspended by the white spiral alone. Resting in the base of

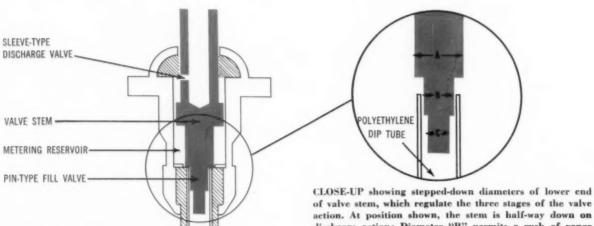
the box is a foil-covered instruction folder, plain gold on top and with the labeling information in gold on black on the reverse side, so that it can be read through the bottom of the box. Six boxes are mounted in a diecut, self-merchandising display unit.

Public acceptance of the new package reportedly has been excellent and the Dew-Dabs are now considered regular items in the Lentheric line.

An obviously significant advantage claimed for the breakproof purse package is the fact that the user carries it with her, resulting in more frequent use.

Strangely enough, Lentheric promotion so far has barely hinted that the Dew-Dab affords automatic spray dispensing. Shoppers evidently have had little difficulty in discovering that this new baby sister to the larger, more widely accepted hair spray, insecticide and hundreds of other aerosol products has the same automatic aerosol feature plus a new convenience—measured dispensing—never before available.

CREDITS: Development work and loading of aerosols by Connecticut Chemical Research Corp., 706 Bostwick Ave., Bridgeport, Conn., using "Meterspray" valve mechanism (patents pending) developed by Lawrence Ward of Meterspray, Inc., an affiliate of Hampton Products Corp., Portland, Pa., and supplied by Dill Mfg. Co., 700 E. 82 St., Cleveland, Ohio, and aluminum containers supplied by Hampton Products Corp.



PRINCIPLE of valve is explained in this sketch. When valve stem is depressed, it opens discharge valve, closes fill valve. Returning to original position, stem closes discharge valve, permits fill of metering reservoir.

CLOSE-UP showing stepped-down diameters of lower end of valve stem, which regulate the three stages of the valve action. At position shown, the stem is half-way down on discharge action; Diameter "B" permits a rush of vapor from below to help discharge product from the metering reservoir and assure complete evacuation, but the opening is not large enough to permit passage of the liquid. When the stem is all the way down, Diameter "A" seals off the dip tube completely. When the stem is released and springs upward again, Diameter "C" permits complete refill of the metering chamber with Freon-perfume mixture.

POLYETHYLENE DIP TUBE



FIVE-CARTON RACK holds assortment of different styles of lubrication fittings in transparent strip pack. As individual units are needed, end of strip can be pulled out of dispensing slot and torn off. Imprinted code numbers identify each pouch.



SINGLE CARTON holds a reel of 100 pouches, each heat sealed in polyethylene-coated cellophane.

Grease fittings unit-sealed

Alemite solves protection, identification and merchandising problems for tiny parts with continuous strip pack in film

M ore so than most small hardware items, tiny Alemite lubrication fittings are susceptible to contamination from dirt and grit. A tiny piece of grit, picked up from a hardware store or machine-shop drawer and subsequently forced into a machine with the lubricant from a pressure gun, may be enough to ruin a delicate bearing and incapacitate the machine.

Another problem, a headache for all packagers of minute hardware parts, is identification. Most of these small items come in an assortment of sizes and types, all difficult to tell apart at a glance. So it's easy for either retailer or seller to mix them up, unless they are carefully labeled.

At one whack, Stewart-Warner Corp., Chicago, apparently has come up with a method of overcoming both these obstacles that also makes possible an unusual new kind of display.

Heat-sealed cellophane strip packages of the kind used with success for many food, drug and household products* have been adopted for singleunit sales of its Alemite lubrication fittings and Stewart-Warner is now able to keep the tiny nipples sealed against dust and moisture up to the moment they are actually needed. Individually packaged, they remain protected even in the mechanic's pocket or tool box, which was not the case before, when they were packed in bulk or in plastic or metal boxes.

Identification of the individual types and sizes is a simple matter of printing on the surface of the polyethylene-coated cellophane envelopes. And, as an extra feature, the strips of sealed packages are available to stores in a unique dispenser box suitable for counter-top display.

Individual fittings are identified by means of small code numbers stamped on the metal parts themselves. The same number is also imprinted in red on the surface of the individual sealed packet, along with the trademark, as part of the packaging operation in the Stewart-Warner plant. The packages themselves are formed and heat sealed in a continuous strip from polyethylene-coated cellophane.

Adapting its packaging equipment

to handle these fittings was not an easy job for Stewart-Warner. A great deal of adjustment was needed to make sure that the parts would index properly to fit into the machine—a task that was further complicated by the fact that some of the fittings were bent at angles of 90 or 105 deg.

After the fittings have been sealed into their individual pouches, each of which is 2 in. wide and 2½ in. long, lengths of 100 are cut off, coiled and inserted by hand into a specially designed dispenser carton. When a retailer gets one of these, he opens a locking-tab and end-flap device on one side of the carton and pulls out the end of the reel of strip packages. This makes it possible to tear off individual units as they are needed.

A special display unit for five of the red-and-yellow cartons, each holding a different type or size of fitting, can be set up on a store table or counter top.

CREDITS: "Cellothene" polyethylenecoated cellophane by Cheslam Corp., 684 Nepperham Ave., Yonkers, N. Y. Dispenser cartons by Pinkerton Folding Box Co., 420 N. Rush St., Chicago.

^e See "Single-Portion Packages," Modern Packaging, Aug., 1954, p. 79, and "Upswing in Unit Packaging," Modern Packaging, Sept., 1953, p. 89.

Filigree Tabels

Embossed and die cut from foil, they offered Ancient Age

a simple way to get the luxury look of a metal-decorated bottle

There are ways to impart a gift look to liquor containers other than the use of decanters.

Outstanding during the past holiday season were the bottles for Ancient Age bonded Kentucky straight bourbon whiskey and Ancient Age straight Kentucky bourbon, both distilled by Ancient Age Distilling Co., a division of Schenley Distillers, Inc., The application to the bottles of delicately designed, lace-like, embossed and die-cut aluminum-foil decoration transformed the regular bottles into

strikingly realistic representations of antique gold and silver filigree bottles.

The special foil labels were applied to give the effect of an all-around metal band, with window openings framing the conventional front and back labels. They provided a holiday pack of outstanding distinction at reasonable cost, at a time when many other brands seemed to be following the pattern of elaborate decanters, gift boxes and other costly extras.

For the packaging field in general, the Ancient Age holiday packaging treatment directs attention to the many possible ornamental effects to be achieved with applied labels, sometimes overlooked in the bewildering array of today's newer materials and techniques for package embellishments.

The idea for this unusual decoration came from an old filigree flask in a collection owned by a Schenley executive. E. L. DuPree, the company's art director, in cooperation with the supplier of the labels, worked out the detail for a filigree design suitable for seal press label reproduction.

Each package required two of the filigree labels, one front and one back, to create the illusion of a continuous band. Eight variations were printed: two of gold-colored foil stock in two sizes for front and back of the fifth and pint-sized bonded bourbon, and two of the silver-colored foil stock in two sizes for front and back of the fifth and pint size of the straight bourbon.

The design was arranged so that end panels, one carrying the embossed lettering, "The Time Honored Bourbon," overlap where the two labels meet at the sides of the bottle.

Used as the sole extra decoration on a standard bottle, these filigree, diecut labels should produce a package less expensive than a special-mold decanter. However, in the case of the Ancient Age bonded bourbon package, the filigree labels actually represented no economy, the company says, because these particular packages were equipped with a special gold-plated metal pourer, fitted to the

POLYETHYLENE BAGS, instead of gift cartons, give complete visibility to decorative labels in display. Gold filigree labels were used on the bonded bourbon, silver on the straight bourbon bottle.





ALL-AROUND EFFECT of the filigree is achieved by applying two die-cut labels, overlapping at sides along edges carrying slogan. Rectangular windows framing the regular front and back labels are die cut in foil label.

neck finish. This closure feature, in addition to a cork with gold-sprayed wood top, had to be hand assembled. The cost of this, plus the cost of the filigree label, also hand applied, actually made the package for the Ancient Age bonded whiskey more costly than some decanter packages, the company believes. However, it was felt these costs were justified to achieve distinction in a market glutted with decanters and other fancy gift packaging.

The supplier experienced no difficulty in producing the delicately designed filigree labels with the exception of special care required in stripping the labels to remove all of the tiny "in-between" pieces after the die cutting.

To display the filigree-labeled bottles to best advantage, the company used no gift cartons. Each bottle was placed in a heavy polyethylene bag secured around the neck with a red tasseled cord. The filigree effect was thus clearly visible to the shopper through the translucent film.

CREDITS: Filigree aluminum-foil labels, ribbon and seal by Cameo Die & Label Co., 154 W. 14 St., New York 11. Regular paper labels by Fleming-Potter Co., Inc., 1028 S. Adams St., Peoria, Ill. Sprayed wood-topped cork by Arco Crown Cork & Cap Co., Inc., 188 Imlay St., Brooklyn. Metal pourer by Sherman Pressure Casting Corp., 601 W. 26 St., New York. Bottles by Owens-Illinois Glass Co., Toledo 1, Ohio. Polyethylene bags by Mason Envelope Co., Inc., 536 Broadway, New York. Tasseled cord by William T. McShea Co., Inc., 16 E. 12 St., New York.



Liver

under plastic

Clear polystyrene lids on liquid-tight paper containers solve a special problem and offer new appeal for many other products



HER HANDS KEEP CLEAN when customer picks up one of Market Basket's new polystyrene-topped liver containers. Dripping, blood-soaked trays—a frequent annoyance with previous liver packages—are gone. Rigid covers also permit stacking of the containers in retail display cases.

L iver and other variety meats have always presented one of the toughest packaging problems in a self-service meat department. At best, their packages are usually messy and uninviting, and the housewife can hardly be blamed for not taking the chance of staining her clothes or dirtying her refrigerator.

But a new way to make liver more attractive in the store and less messy for the customer is now being used in the 104 supermarkets in New York and Pennsylvania operated by The Market Basket Corp., Geneva, N. Y. It's a 16-oz. plastic-coated paper container capped with a clear, rigid, injection-molded polystyrene cover. First reaction to the experiment came from the store managers themselvesan immediate voice of approval backed up with reports that liver sales very definitely were on the increase. And after the first two months, total sales of liver throughout the chain had jumped 30%.

Behind Market Basket's new-found enthusiasm rests a problem which meat packagers have been wrestling with for years. Liver is usually supplied uncut to the stores, with beef liver weighing from 6 to 10 lbs., calf liver from 3 to 5 lbs. and lamb liver up to 2 lbs. It is sliced in the store, wrapped in transparent film, dropped in a paper boat, weighed and priced, then given a second wrapping, sealed and sent on the display rack.

This may sound relatively simple, but a number of problems are presented. The package is not attractive, since blood often discolors the boat. Moisture and the double wrapping tend to obscure visibility to the point where the liver appears dark, not



CONTENTS ARE VISIBLE through the clear polystyrene lid of the new container. This new method of packaging reportedly keeps liver without the necessity of rewrapping for periods as long as a full week. In only two months, sales of liver in these packages increased 30%.

fresh. Nor is the package leakproof. At best, the double wrapping provides partial protection for a 24-hr. period. If still unsold, back to the wrapping table it goes for another goaround, necessitating additional instore handling.

The possibility of staining the customer's clothes is ever present. Many a housewife has learned through bitter experience that a package of liver is one thing not to be handled with kid gloves. And once she has succeeded in getting it home, she is usually told to take the trouble of unwrapping the liver before storing it in the refrigerator. How do the paper container and plastic lid solve these problems? First, by eliminating all wrapping and sealing, packaging costs reportedly are cut in half. Market Basket estimates the cost of container, cover, filling, weighing, pricing and placing cover at 5 cents per package. Compared with former packaging, this results in a savings calculated at 37%. Cut slices of liver now are simply placed by hand in the container, which is weighed and topped with a plastic lid on which a thermoplastic label is affixed.

While the conventional wrapping had to be replaced every day, duplicating the original cost, the container and lid provide safe storage for as long as one week without repacking, according to Market Basket's experience. They provide safe storage, too, for liver in a housewife's refrigerator.

Aside from these savings, which justify use of the new packaging strictly on the basis of costs, liver sales themselves reportedly have jumped up remarkably in two months of use. "As closely as we can figure,"

says Market Basket's meat superintendent, "our problem is largely one of showing the customer what she is actually buying. With a double wrapping, the liver was anything but appealing. Thanks to the new clear lids, the liver now looks as fresh as it actually is. This is everything a package should be—protection, honest display, neatness and plenty of eye appeal."

Paper containers with solid or cellophane-window lids have been used before, with varying results, for variety meats. But one key to the apparent success of the new package is its leakproof construction. The containers selected are plastic coated inside and out. The polystyrene lids telescope over the rims of the containers to exclude all dirt and provide a tight-fitting, sanitary cover. The clear polystyrene used is said to be low in cost, permit maximum visibility, be unaffected by food items in contact and not get brittle at freezer temperatures. Equally important, the rigid plastic cover permits quantity stacking of the filled cartons with no damage to contents. "It was amazing," reported the manager of one of the stores where the new package was first tried, "to watch the changing reaction to the container. For the first few days shoppers were hesitant to pick up the container. When an occasional one did, she usually returned it to the case. Then almost on signal, shoppers generally decided it was a good idea and our liver business has been brisk ever since." When similar reports came in from other stores, Market Basket placed a second order for the lids and containers.

Success of this initial experiment prompted store managers at Market Basket to turn their attention to another slow-moving item-ground sausage. In an attempt to increase sales, some of the stores previously had experimented with other types of containers and lids. Results were unsuccessful, however, due to leakage and lack of visibility. To test the container and lid for this application, one of the stores packed ground pure pork sausage in these containers and placed them alongside conventional packages -a 5-by-5-in. tray with cellophane wrapping. More sausage was sold in the new container, despite the fact that it was priced 10 cents per pound higher than the conventional one.

Based on these findings, Market Basket is now switching to the new package for sausage in its other stores and is seriously considering it for hamburger and other ground meats. While these latter uses have yet to be tried on a full-scale basis, results to date are said to be promising. Market Basket's success with the new container and lid points up the fact that since the customer looks down, rather than across, to see the products in refrigerated display cases, a clear cover can be particularly important for products sold there.

Ice cream offers another possible (This article continued on page 204)

PACKAGING IS SIMPLER with wrapping and sealing stages eliminated, and costs are cut. Girl places liver slices in paper container, weighs it, puts on plastic cover. Label is passed over hot iron and fastened to the lid.



PRODUCE

In just 10 years, the growth of pre-packaging has pushed fruits and vegetables to the status of major *packaged* commodities

The current fighting slogan of the Packaged Produce Assn. is: "Bulk Produce—the Vanishing American!"

Pre-packagers entered 1955 with a "nothing-can-stop-us" attitude that should make this year a record breaker in the progress of marketing packaged fruits and vegetables.

It is exactly 10 years since Modern Packaging's trail-blazing first report on the Columbus experiment. This history-making pilot operation for central pre-packaging of fresh fruits and vegetables and their self-service sale, located in Columbus, Ohio, by the Great Atlantic & Pacific Tea Co. was in a large sense the proving ground for this vast new field of packaging.

Today more than 40% of the country's retail grocers are reported to have self-service produce departments, using packaged items. The Department of Agriculture estimates that 15% of the 75 billion pounds of produce grown annually is now bagged, boxed, traved, overwrapped, tagged, labeled or otherwise packaged. A & P's marketing director, John Deegan, predicts that in 10 years more than 75% of all fresh fruits and vegetables will be pre-packaged at grower, terminal or retail level. Even-more-optimistic spokesmen say this percentage will be reached in five years. An estimated 2,000 packers at grower and wholesale level are now pre-packaging produce, in contrast to approximately 400 only a short three years ago.

The outlook for further growth is based on three aspects of development: (1) rapid technological advances in methods of packaging, (2) enthusiastic retailer acceptance and (3) aggressive promotional programs.

Emphasis on the possibilities of large-scale produce packaging began at the close of World War II. The deplorable waste and spoilage of the country's food supply occurring in the shipment and handling of fresh fruits and vegetables during the relatively short time interval between growing point and table drew the attention of agricultural experts, food technologists and packaging industries. Government statisticians estimated that a third of this food supply was being wasted between farms and consumers. Jointly. these leaders in the food field began seeking ways to stop the waste. Packaging appeared to be the most logical

New trends in self-service merchandising and the wider use of the packaging and refrigeration that this requires indicated that retailers were thinking along the same lines.

In accordance with its traditional policy of streamlining food distribution, A & P took the lead in establishing the testing place. In the back room of a store in Columbus, Ohio, a number of produce items were wrapped by hand in moistureproof cellophane, sealed with a hand iron and displayed in one of the open refrigerated meat cases.

Consumer acceptance was immediate. Sales rose. It was apparent quickly that spoilage was reduced and the salable life of packaged items greatly increased. The neat packages provided convenient selling units that speeded up traffic. There was no waiting for weighing and wrapping. The produce was clean, practically ready to use in the home with little further preparation.

The operation soon progressed from initial experiment to serious development. Machine wrapping was intro-

See "Columbus Experiment," Modern Packaging, July, 1945, p. 89.



LOW-COST VOLUME packaging is essential to profitable produce operations. That is why all eyes have been turned to automatic lettuce packaging at Triple M Packing Co., Philadelphia. Trimmed heads of lettuce in paper-board trays are cellophane overwrapped at speeds as high as 40 heads per minute.

PHOTO COURTEST STANDARD FOLDING TRATS CORP



100% PRE-PACKAGED fruit and vegetable department is no longer a rarity. Everything can be wrapped, bagged, tagged, labeled, priced and branded. ready for shopper selection and check-out.



FRESH AND CLEAN pre-packaged produce goes straight from store to refrigerator, without waste. And fruits and vegetables stay fresh longer, too.

duced and the proving ground expanded to supply several of A & P's Columbus stores.

Five years later the operation had grown enough to warrant a modern, up-to-date building of its own, with the central pre-packaging operation taken over by the Atlantic Commission Co., A & P's produce-buying affiliate.2 The facilities occupied 16 times the original area and employed 30 persons, three automatic wrapping machines and an apple-sorting machine. Pre-packaged merchandise was being transported daily in air-cooled trucks to 75 stores. And the development continues to grow, A & P now has centralized produce-packaging plants in several of its marketing centers, with additional in-store retail

pre-packaging facilities or get prepackaged items from grower or terminal sources.

The U.S. Department of Commerce lists 41 fresh fruits and vege-

operations in some of its largest supermarkets Practically all other major food chains today maintain either their own

tables that are now being pre-packaged in some degree and this includes 73% of the spinach, 58% of the toma-

² See "Columbus Experiment 5 Years Later," Modern Packaging, Sept., 1949, p. 71.

toes, 56% of the mushrooms and 60% of the cranberries. According to trade estimates, 75% of the carrots grown today are topped and pre-packaged, compared with 5% in 1950; this cuts freight charges about 30%, represented by a saving of both bulk and weight.

Radishes have shown recent rapid packaging growth and are among the leading packaged produce items today, some growers now pre-packaging their entire crop. One third of the potato and apple crops now reportedly reach retail counters in pre-packaged form. The State of Maine sent its first polyethylene-bagged, washed and graded potatoes to market last year³ and is also experimenting with prepeeled bagged potatoes.

Few areas of packaging have been more challenging to packaging technologists than fresh produce. Efforts have enlisted not only leading researchers in industry, but those of the Department of Agriculture and most leading agricultural experiment stations throughout the country.

The subject is extremely complicated. The packaging material used for each of the hundred or more common fruits and vegetables must meet specific metabolic and preservation

¹ See "The Potato Goes Modern," Modern Packaging, Sept., 1954, p. 142.

requirements of the individual product. Characteristics vary from rapid deterioration due to weight loss over the extended surface of leafy vegetables, such as lettuce, to the long life inherently provided by the protective skin of an orange.

Most produce items must "breathe" to survive and few film materials have precisely the right balance of carbon dioxide, oxygen and water-vapor transmission to solve the preservation problem ideally. In many cases, perforation of the film is recommended to give proper ventilation.4

Perhaps the most widely heralded development in produce packaging recently is a new automatic method of packaging lettuce, the country's sec-

See "Ventilation of Produce," p. 140, this issue,



ond vegetable in volume after pota-

The advantages of packaged lettuce have long been recognized-longer life through the reduction of rapid weight loss, elimination of losses due to consumer handling and a more sanitary product with greater eye appeal. Store surveys have shown that the average shopper handles from five to seven heads of lettuce before making a purchase.

But efficient volume packaging

methods at low cost have heretofore been difficult to develop for lettuce. The new method introduced recently by the Triple M Packing Co., Philadelphia, is a reportedly significant labor saver. Trimmed heads of lettuce are placed in special paperboard trays, then overwrapped in cellophane by a machine developed for this purpose. The procedure is said to represent less handling and labor than bagging methods and provides a package with eye appeal that is reportedly outselling bulk lettuce five to one in test markets.

Produce packaging requires a wide variety of materials, from the wood and fibre shipping containers, aluminum foil liners, textile bags, multiwall bags, baskets and cradles required at grower points, to all the cellophane and plastic films, paperboard trays, paper bags with windows, paper-mesh bags, plastic baskets, tapes, labels, boxes, etc., used in the store's prepackaging room.

Cellophane is still the most widely used film volume-wise, but in the last few years polyethylene film has become a close runner up. According to trade estimates, between 7½ and 8 million pounds of cellophane were used for produce packaging last year. In 1953-most recent year for which estimates are available-6 million pounds of polyethylene film were used for this purpose.

One leading supplier envisions a produce-packaging potential of 79 million pounds of cellophane and 138 million pounds of polyethylene annually. This firm figures a cellophane potential of 18 million and 11 million pounds, respectively, for lettuce and celery alone. It places the potential for potatoes at 48.9 million pounds of polyethylene and for oranges at 27.2 million pounds of polyethylene.

Cellulose acetate has found considerable acceptance, particularly for tomato wraps and for cartons with transparent windows, because of its ability to "breathe." Pliofilm and saran are used in some applications and produce packagers are also studying the possibility of polyester films and other new materials.

Machinery manufacturers have aided produce packaging by adapting wrapping and sealing equipment to the purpose with special attachments for perforating, code dating, etc. Such equipment may be synchronized to automatic tray set-up machines.

There is a wide variety of bagging machinery on the market designed for produce packaging, with more advanced models being announced constantly. One of the latest, for example, is a fast, versatile, compact and economical unit with box-like shape that looks not unlike a modern electric washing machine, developed by the packaging division of a gold-mining company. All you do is place the item to be packaged in a front opening and the machine does the rest. A magazine holds 1,000 bags. When the machine



"HARDWARE" ITEMS now go to market right from the growing source in sturdy polyethylene bags. About 75% of the carrots are topped and pre-packaged. One third of potato and apple crops now reach retail counters in pre-packaged form.







CELLOPHANE potential for celery wrapping has been estimated at a possible 11,000,000 lbs. annually. The wrap retards moisture loss of product.

DESIGN refinement in produce packaging is indicated by these attractive tomato wraps of cellulose acetate for three different brands distributed by the L. A. Produce Co. of Los Angeles.



PHOTO COURTESY ALFORD CARTONS, BIV. CONTINENTAL PAPER CO.



GROWER OPERATIONS are on a vast scale in the West. Sunkist lemons are sorted on sizer conveyor (background) and delivered to fillers. Four operators handle volume formerly requiring 26 to 40 for hand packing.

QUALITY PEACHES can be packed riper and thus command a reportedly higher price packed in patented, die-cut cartons that cradle each peach.

is set in motion, a bag is picked from the magazine, opened, filled and placed gently on a conveyor ready to go to sealing or closing machine.⁵

The type of packaging materials used and the degree of mechanization depend entirely on the type of operation involved.

Today's produce packaging quite neatly divides itself into three levels: grower, terminal and retail store.

And although development began at the retail level and the largest volume of pre-packaging is still done by retailers, the direction definitely appears to be back toward the terminal wholesaler and the grower, depending on the economics and the suitability of the produce.

See "Equipment and Materials," p. 148, this issue.

This trend is similar to the historical pattern of practically all packaging—foods, drugs and, currently, soft goods. The producer or manufacturer eventually does the packaging, leaving the retailer free to concentrate on selling.

How rapidly the pre-packaging of fresh fruits and vegetables can be pushed back to the grower level depends (1) on the efficiency of packaging materials and methods to maintain the product in fresh condition during shipment and (2) on techniques in cooling and refrigeration.

Grower level

There are outstanding examples of economies in grower-level packaging, particularly for root vegetables. Conspicuous savings have been achieved by the pre-packaging of carrots and radishes with tops removed at the source to save on shipping.

Other so-called "hardware" items of the trade—onions, apples, potatoes, parsnips, yams, sweet potatoes, etc.—can now be packaged efficiently at the growing source in sturdy bags of polyethylene, Pliofilm and other materials. The Washington State Apple Commission reported the shipment of some 12 million polyethylene-bagged apples, principally in 4-lb. size. The bagging operation gave unusual stimulus to a crop with a prevalence of small-sized apples.

Grower-level packing apparently is aiding in more efficient handling of lettuce with the flash-cooling method





PLASTIC trays and baskets of acetate or polystyrene have won consumer confidence by letting shopper have six-sided view of what she is buying. Crosset Co., Cincinnati, markets premium tomatoes in this way. Michigan Royal blueberries appeared in printed cellophane-wrapped mesh baskets (right) last season.





⁶ See "Pre-Packaging in the West," Modern Packaging, July, 1954, p. 140.



PRICER BAGS in six sizes, which can be ordered with any store signature or logotype at no extra cost, depending on quantity, offer convenience and low-cost package to retailer. Also available is a cellophane lettuce bag in two sizes which may be similarly signature printed.

now adopted by most of the Western lettuce growers. Lettuce is cut at night and packed right on the field into corrugated cartons and palletized so that it is taken directly from the field to the vacuum cooler. The packingshed operation is eliminated. Flash cooling of lettuce by evaporation of field moisture under vacuum eliminates the need of customary ice-pack methods and reportedly improves the quality of the lettuce on arrival at Eastern markets. By evaporation of the moisture in the lettuce itself, flash cooling reduces the temperature to about 33 deg. F. in a matter of 20 minutes. The packed cooled lettuce may then be placed directly in a refrigerated car, but need not be top iced.

This "dry pack" method permits the use of corrugated containers instead of former nailed wood crates, thereby reducing container costs and weight considerably, and eliminating rehandling and complicated packingshed operations.

The use of aluminum foil-lined fibre cartons for the shipment of citrus fruit is a grower packing possibility for handling produce without refrigeration or ventilation, reportedly saving up to \$70 per carload on ice alone. Tests have indicated that fruit shipped in this manner can be stored at ordinary temperatures for as long as 60 days without adverse effects on weight, appearance, quality or flavor. And it is reported that fruit so packaged actually deteriorates more slowly after removal from the carton at retail outlets than that stored at conventional lower temperatures,

The jacketing of bananas with polyethylene film to prevent scarring and bruising is another example of the advances made in grower packing methods to assure better quality products at the point of sale.⁷

The selling of quality fruits in consumer units packaged by the grower and the increasing volume in sale of gift packs of choice fruits by mail have interested growers in many new package forms. Louis Caggiano, manager of Sunny Slope Farms, Gaffney, S. C., has found an efficient method of packaging quality peaches in a patented, die-cut carton which cradles each peach in its own compartment. Mr. Caggiano reports that he can ship hydro-cooled peaches in this manner by refrigerated truck as far as 1,200 miles with a minimum of loss and that he has been able to pack a riper peach and thus get a higher price for the product.

The growth of a mail-order market for quality fruit, most of it fancy gift packed, has created a demand in the produce field for handsome gift boxes of both corrugated and paper-board construction, individual foil wraps, colorful shredded cushioning materials, ribbon ties, baskets, etc.

Terminal level

Greatest strides in pre-packaging techniques have been made in what are known as terminal or central packaging operations. The terms signify large-scale pre-packaging done under one roof to supply a number of stores in a local area. Sometimes the operation is conducted by a distributor or wholesaler who serves a large number of retailers. Sometimes it is the centralized operation of a large chain serving all its retail outlets in a given area. Many of the A & P operations are in the latter category.

This procedure has permitted the development of highly specialized production-line techniques and mechanized packaging, tailored to specific product requirements. Much study has been given to efficient layout of these plants and to the installation of proper cutting, sorting, wrapping, sealing, bagging, weighing and labeling equipment to handle the packaging. With centralized mechanization, pre-packaging can be done at lower cost and is consistently more uniform in quality. Individual store operators are relieved of setting up



"CONVENIENCE FOODS" are finding a place on the packaged-produce counters—salad greens, pre-peeled potatoes, finely cut soup vegetables. In Alabama, an enterprising retailer sells waffle-sliced potatoes with parsley sprigs in an overwrapped paperboard tray. Shoppers are paying four times as much per pound for these potatoes and like it, apparently.

See "Operation Banana," Modern Packaginc., Jan., 1955, p. 104.

in-store pre-packaging facilities and thus may concentrate on the primary retail functions of promotion and selling.

Retail level

In some situations, retailers must do their own pre-packaging. These operations may range from the simplest manual set-ups, using hand sealing irons, to completely mechanized lines. The A & P has one of the most modern retail-level mechanical set-ups in the basement of a large supermarket in Yonkers, N.Y., servicing just this one store. It is reported to be one of the few so-called 100% pre-packaged produce operations in the country.

A 100% pre-packaged produce department, however, is something of a misnomer, even in the parlance of produce men. There are areas where a package in the usual sense may never be necessary, they say. Packaging for watermelons, hubbard squash, pumpkins, etc., may mean nothing more than brand labeling or price banding to speed up the transaction at the check-out counter.

Advantages

Reported major advantages of prepackaging are: (1) reduction of waste and spoilage, (2) convenience to the retailer, (3) convenience to the consumer and (4) opportunity for the promotion of brand name.

To grower, wholesaler and distributor, packaged produce provides better product protection, increases volume sales through wide range of Packaged promotion ideas

PHOTO COURTEST VISKING CORP. AND THE DOBECKMUN CO.

distribution and permits closer control of quality, inventory and costs.

The retailer benefits through less handling and reduced labor costs. Spoilage and markdowns due to customer handling are cut down. Shelf life is increased through the protection of the package and the selling procedure is speeded up because store clerks are not required to weigh and HOWDY DOODY packages are basis of current nationwide cooperative effort to increase children's consumption of fresh produce by capitalizing on this popular television character.

TRICK OR TREAT package featuring Hallowe'en mask at top was successful for four Washington apple packagers last year, Bags were polyethylene, Lower part features sell copy, children in costume.

wrap before a sale is made. In most instances the unit of sale is increased by the package, although this is sometimes pointed out as a disadvantage to consumers who may be required to buy larger packaged quantities than they actually need.

Packaged fresh fruits and vegetables provide the consumer with more uni-(This article continued on page 202)

VISIBILITY OF CONTENTS is big aim in produce packaging. New two-piece waxed paperboard cartons solve problem with tear-out flaps over acetate windows which provide full view of product on display, yet safe protection for shipping and handling. Items are packed into cartons upside down with recessed bottoms inserted and stapled. Tear-out flaps are not removed until packages go on retail display. Carton is meeting with unusual acceptance for grapes, apples, pears, tomatoes.





PHOTO COURTEST MARATHON C

Shrink-tight polyethylene

New-type film has attractions for packagers of frozen poultry and other products, but some problems remain to be solved

Shrinkable polyethylene—a specialized film which has the property of shrinking tightly around a product packaged within it upon being immersed momentarily in hot watergives the packaging field a new functional material with many interesting possibilities. Envelopes and casings fabricated of this film have sparked a considerable amount of interest among packers of frozen poultry, a number of whom are now studying the material or have actually adopted it as a possible answer to some of their packaging problems. The shrinkable film also may have application to certain products which are merely refrigerated rather than frozen.

Secret of the shrink-tight function of the new film is that it is oriented during or after the extrusion process. This operation stretches the film in both directions, modifying its molecular structure in such a manner that when later subjected briefly to sufficient heat, it tends to return to its original dimensions. When a turkey or other food product is placed in a bag fabricated of this material, the residual air withdrawn by a vacuum nozzle and the bag sealed, the film shrinks up tightly around the product upon being immersed in water near the boiling point, due to the "plastic memory" of the film. The tightly drawn, transparent package combines eye appeal and highly effective product protection.

The amount of shrinkage achieved by the film is considerable. One type is reported to shrink as much as 60% and yet retain its original desirable properties, such as high tear strength and low moisture permeability. Another film producer claims that his specially processed polyethylene film shrinks 30% in both directions to produce a snug, protective, contoured fit.

Film of 2-mil gauge is reported to be the thickness most commonly used for frozen poultry products, although for heavier and larger items of 3 lbs. or more, heavier-gauge film is recommended for best results. Bags made of shrinkable polyethylene are now being supplied by several converters under their trade names.¹ Both round and square-bottom bags are available to fit products of different shapes. Bags may be either printed or unprinted to meet the requirements of the packer.

Several special features of shrinkable polyethylene film are of interest to packers of frozen poultry and other types of food products.

One is economy, reflected in a lower cost per bag. (One converter says from 20 to 40% lower than shrinktype bags made of other materials.) It is claimed that the polyethylene bags will not break, shatter or crack under freezing because of the unusual low-temperature tolerance of this plastic. Even at temperatures of minus 60 deg. F., polyethylene usually retains much of its flexibility and resists damage. The material also conforms well to the shape of the product packaged, is odorless and non-toxic. and will not deteriorate with age or discolor, it is claimed. Its high degree of transparency permits convenient visual examination of the product within. The material may also be satisfactorily printed for purposes of identification, although in some instances special precautions are necessary to prevent defacement of the printing during the shrinking operation. Insoluble in water, the polyethylene film has a low WVT rate-particularly at zero temperature—which helps to provide maximum product protection.

Methods of use

Even with products of irregular shape, a tight-fitting package may be obtained with the shrinkable polyethylene film, processors report. In a recent demonstration staged by one film converter before a group of leading Midwestern meat and poultry packers, turkeys, cut-up chicken parts, meat loaves, cold cuts, frankfurters and various other products were packaged in this new type of film. After air had been exhausted from the bags with conventional vacuum equipment, the packages were twisted and the tops clamped shut. Bags were then dipped for three seconds in a solution of water and propylene glycol heated to 215 deg. F. The propylene glycol permits the temperature of the water to be raised sufficiently to obtain full, rapid shrinkage. A saturated solution of sodium chloride may also be used for this purpose.

¹ Dewey & Almy Chemical Co., holder of a basic patent (U. S. Patent No. 2,376,583) on a process of packaging food products in a shrinkable film material, has contracted with various converters to extend the license to practice the claims of this patent.

Steps in loading,

STUFFING HORN used on Land O'Lakes turkey-packaging line speeds insertion of birds into polyethylene bags. The horn accommodates different-sized turkeys, large or small.





SNUG-FITTING polyethylene bags shrink to a skin-tight fit that eliminates trapped air or film pockets that might tear easily. Uniform shrinkage preserves clarity and distortion-free registry of printing.

After dipping, the packages are ready for icing or freezing, using conventional methods.

For maximum fit in the finished package, the bag used should conform as closely as possible to the dimensions of the item to be packaged. According to one bag supplier, in no case should the original bag be more than 10% larger than its solid contents. While the bag circumference should be held to a minimum, sufficient material should be allowed for fast loading and evacuation of air. The length of the bag should be ample to permit the film to be drawn down into recesses during evacuation and extend over the evacuating nozzle.

Using a stuffing from or mandrel, the product is then inserted in the bag and the bag is evacuated with suitable air-pump equipment down to from 1 to 5 in. of mercury, or until the plastic material is brought into firm con-

tact with the product surfaces, eliminating any bridging or ballooning. The film may be drawn down into the cavities by pulling gently on the package with a slight oscillating motion; this also permits trapped air to be pulled from the bottom of the bag.

The next step consists of twisting the neck of the bag and securing it with a suitable clamp or rubber band. Positive tie-off is essential for a satisfactory package. This tie, according to one bag supplier, should be placed at least 1/2 in. from the contents of the package to allow for contraction of the film. After the tie is made, the excess film is cut off not less than 1/2 in. from the tie. Equipment is available which semi-automatically clamps an aluminum band around the neck of the bag, effecting a tight seal; it also has a guarded cutting blade on which the excess film beyond the seal may be removed.

For the shrinking operation, the

package may be placed in a wire basket having a lid to prevent the product from floating to the surface. The package is then fully immersed in the hot-water bath (210 to 215 deg. F.) for not longer than two seconds. Temperature is critical; proper molding or shrinkage of the film will not take place unless it is closely controlled. Immediately upon contacting the hot water, the film softens and flows to the conformity of the contents, due to the pressure of the water. The package is then ready for quick freezing with regular types of equipment in order to preserve the contents.

Recently a test run employing methods largely duplicating those outlined above was run at the Land O' Lakes turkey eviscerating plant at Albert Lea, Minn. More than 2,000 birds ranging from young hens to large toms were packaged in shrinkable polyethylene film. The special equipment used on the packaging line

air evacuation and shrinking

EVACUATION OF AIR assures tighter package and better protection. After bag is removed from vacuum nozzle, an aluminum clip is applied by device at left.



HOT DIP is effected in a thermostatically controlled shrink tank. The special solution which is used permits heating at a temperature above the boiling point of water.





AIR-OPERATED clip fastener applies aluminum band to neck of polyethylene bag, which has been twisted tight. Fastener has cutting blade for removing excess film above closure point.

included a stuffing mandrel, vacuum nozzle, air-operated clip fastener, rubber-covered-wire dipping baskets and a shrink tank equipped with thermostatic control. A 2-mil printed film was used. Evacuating equipment was capable of pulling approximately 29 in. of vacuum. The dipping solution was 60% propylene glycol and 40% water by volume. Temperature was held at 215 deg. F. and immersion dwell was I to 2 sec., followed by a dip in cold water to remove the propylene glycol and prevent damage to the printing. Following weighing and marking, the turkeys were quick frozen and were ready for marketing.

While the most important use for the shrinkable polyethylene film so far appears to be in connection with frozen poultry, the material may also be used for such products as fresh ground beef and hamburger intended for frozen-food storage. However, products of this type require slightly different handling to avoid discoloration of the surface of the meat during the hot-dip operation. Under the recommendations made by one converter, the fresh ground beef should first be loaded into the bags and the ends of the bags left open or untied. The bags may then be placed in a sharp freezer cabinet long enough to freeze a hard shell around the outside of the beef to a depth of % or % in. Bags are then removed from the freezer, evacuated, tied off and sealed in the same manner as those containing turkeys or other products. During the dip operation, the film molds closely to the ground beef contents and the meat, it is said, retains its rich color due to the protective layer of frozen beef on the outside. Packs are then placed in the freezer for complete freezing and

One converter has recently introduced shrinkable polyethylene bags specially prepared for food products which are to be refrigerated rather than frozen. The film used in these packages has a lower gas-transfer rate than that customarily used for frozen products. It is recommended for refrigerated items because, at these temperatures, above freezing, the gastransmission rate and the water-vaportransmission rate are higher than in frozen products and they therefore require better protection.

The converter recommends that each refrigerated product packaged in this manner be carefully evaluated for an adequate test period, simulating actual production methods, covering the time from manufacture of the product through the storage period, plus the estimated time the packaged product will remain on the shelf at the retail level.

Problems

Although shrinkable polyethylene film appears to have a promising future for certain types of products, it would be misleading to imply that all problems surrounding its usage have been solved. Film producers, converters and packers, it is reported, are working jointly to overcome certain difficulties experienced with this type of film and with the handling methods so far developed.

One of the major problems encountered is the relatively high temperature necessary to produce the desired shrinkage. Exposure to steam, for example, is not sufficient to shrink the film; water at or just below the boiling point, or some form of liquid solution, must be used. With a solution of propylene glycol at a temperature of approximately 215 deg. F., it is possible to handle the dipping process without getting the liquid so hot that steam is produced.

However, the use of propylene glycol leads, in turn, to another problem.
This compound adversely affects the
flexographic inks customarily used in
printing the polyethylene packages. In
order to eliminate this difficulty, a
clear protective lacquer coating may
be applied to the bags after the printing operation; such a coating has the
added advantage of protecting the
bags against possible blocking. Another possibility is to dip the bags in
cold water immediately upon removal
from the hot immersion which shrinks
the film.

Film producers are working to develop a polyethylene film which can be shrunk to a tight fit at lower temperatures. Whether this can be achieved without adversely affecting other properties of the film remains to be seen. For the present, however, it is generally conceded that the film must be exposed to temperatures of around 210 to 215 deg. F. or more (This article continued on page 207)





SHRINKAGE of up to 30% in both directions is produced by dipping film in solution of water and propylene glycol heated to a temperature of 210-215 deg. F. Special processing produces shrinking property. In this demonstration photo, only the lower half of the bag has been dipped.



TEAR-OPEN ENVELOPE of threeply material (see illustration below) holds only 10 or 25 grams of a commonly used reagent chemical. It is designed to cut waste and to climinate possibility of contamination.

3. Acetate

2. Foil

Unit packs for chemists

New triple-laminated envelopes hold enough for one experiment and keep chemicals pure

K eeping a supply of small quantities of reagent chemicals has always been something of a problem for researchers, students and others who work in laboratories. It is a complicated and expensive procedure just to maintain an inventory of all the chemicals a researcher needs.

A Pennsylvania university says that it must stock as many as 4,000 different kinds of chemicals in a vast array of bottles, vials and jars to meet its needs. Yet the quantity used of any one of these may be very small.

Fisher Scientific Co., Pittsburgh, the country's largest maker and distributor of laboratory appliances and reagent chemicals, has just introduced a new kind of packaging which may go a long way toward making this job a simpler and cheaper one.

Known as the Gram-Pac, this new small-lot package is a tough, triplelaminated envelope into which can be factory sealed only enough of each chemical for one researcher's use.

Up to now, the smallest container for laboratory chemicals has usually been the 4-oz. glass bottle. Since many experiments call for a half gram or less, several workers often have been dipping spatulas into a common reagent bottle.

Fisher's Gram-Pacs appear to be a good solution to the contamination problem. Each of these holds only 10 or 25 grams—a small enough quantity for one man's experiments. He can tear open an envelope of chemical and be sure he is getting a reagent that is as pure as it was when it left the factory. And if even this quantity is more than he needs, he can simply fold over the top of the envelope and save whatever remains.

The new disposable envelopes are made from a three-ply material that is both strong and chemically resistant. Each of the three laminations is designed to do a different job in protecting the contents: innermost is polyethylene, for chemical inertness; next, aluminum foil, for strength and insulation, and, on the outside, acetate, for waterproofing.

Filling is done by means of a conventional powder unit packager with automatic volumetric feed. Two webs of the triple-laminated material are used and heat sealed on all four running edges of each pouch.

Individual Gram-Pacs are sold in

boxes of 10, so that a single box calbe distributed among as many as Idifferent laboratories at a college, unit

boxes of 10, so that a single box can be distributed among as many as 10 different laboratories at a college, university or industrial research unit. This, says Fisher, will eliminate overlapping sizes, reduce waste and cut costs (typical price: \$1.24 for ten 25gram envelopes of ammonium chloride, A. C. S. grade).

At present, Fisher's Chemical Mfg. Division is packaging 16 of its most commonly used reagent chemicals into Gram-Pacs at a just-opened plant in Fair Lawn, N. J., said to be the largest factory in the country devoted exclusively to the production of laboratory chemicals. Future plans call for the marketing of almost all of the company's highest-purity line, Fisher Certified Reagents, in the Gram-Pac, including all of the nearly 200 chemicals for which the American Chemical Society has established purity specifications. Even liquids and hygroscopic materials may be packaged this way in the future.

CREDITS: Envelopes made on powder unit packager from Wrap-Ade Machine Co., 83 Valley St., Belleville 9, N. J., using laminated film by The Dobeckmun Co., 3301 Monroe Ave., Cleveland 13.

Design

Baby's juice packed in standard nursing bottles



There's never an end to the new packaging ideas that can be thought up to give a product that little extra which distinguishes it from competition.

Now a standard 4-oz. nursing bottle, complete with measured markings, has been adopted as the glass container for Clapp's Fruit Juice for Babies, made by Duffy-Mott Co. Merely by removing the pryup cap and putting a nipple on the package, mothers have the juices ready to serve to their babies. Empty bottles can be sterilized and re-used for infant feedings.

The Clapp juices in the nursing bottles are an entirely new blend, according to the company, supplied in two varieties, distinguished by a blue label for normal daily use and a red label for one to which prune juice has been added.

CREDITS: Bottles by Thatcher Glass Mfg. Co., Inc., Elmira, N. Y., Bottle caps by White Cap Co., Chicago, Labels by Rochester Lithograph Mfg. Corp., Rochester, N. Y.



Display carton that's a labor saver

The Edlee Corp. wanted a serviceable package that would give visibility and counter appeal to a new product, a plastic toilet tank float and chain. The package also had to be easy to assemble without time-consuming and costly labor.

A die-cut and scored folding paperboard carton was found to combine all these features. The six-sided carton, printed in yellow and red, consists of a self-contained platform that is set up from the scored window of the carton. The platform not only displays the product to advantage, but also locks it in place during shipping. To hold it more securely, the inside top flap has a cut-out slot into which the top of the tank is inserted. The chain slips into a space in the back and hooks onto a bottom flap, which prevents it from slipping out or getting tangled in any way. Cost of the package is kept to a minimum by the elimination of extra inserts and the extra labor they entail.

CREDIT: Carton by Gordon Cartons, Inc., Baltimore, Md.

Histories

Prince Matchabelli's pop-up surprise

The fern-green folding carton designed for a 4-oz. flask bottle of Prince Matchabelli cologne is fastened with a paperboard band (not shown in photograph) that announces, "Suddenly it's Spring!" When the band is removed, an extra book-type ver on one side of the carton pops open revealing a paper bouquet of spring posies in full color and life-like dimension. Construction of the carton is one piece, but an extra flap is left loose over the front panel when the seam is glued. The die-cut, scored and assembled pop-up fold is hand glued to the extra flap and to the front panel. Removing the band makes each package a counter piece in its own right.

CREDITS: Box by Warner Box Co., Bridgeport, Conn. Artwork for box and flowers by Penthouse Studios, New York. Flowers printed by Butler & Ferrigno, Philadelphia. Flower assembly engineered by Karl Kochler, Coopersburg, Pa. Flask bottle by Kimble Glass Co., Sub. Owens-Illinois Glass Co., Toledo, Ohio. Labels by Richard M. Krause, Inc., New York.



Same shape, new sizes

Though its market research reveals that most people prefer the standard 6-oz. bottle of Coca-Cola, the Coca-Cola Co. reportedly has found indication of a potential market for other sizes. To test this potential, two new-size bottles are being introduced in limited areas—a 10-oz. or king-size bottle and a 26-oz. or family-size bottle. The familiar Coca-Cola bottle shape has been retained in both of the new larger sizes.

The family-size bottle is making its bow in Springfield, Mass., and in San Francisco, Oakland, Hayward and Pittsburgh, Calif; the king-size package in Boston, Mass., and Columbus, Ohio.

Although no definite plans for putting the new large-sized bottles of Coca-Cola on sale in other cities will be made until marketing techniques and consumer reaction are given further study, there is a possibility that the bottles will be put on the market later in a few additional Midwestern cities.

CREDIT: Bottles by Owens-Illinois Glass Co., Toledo, Ohio.





COMPLETE VISIBILITY and perfect flavor protection are provided Crescent's creamed cottage cheese in this radically new package. Dish-like base is vacuum formed from a single piece of 20-mil polyethylene; polyethylene-coated cellophane covers the top and is heat scaled to rim. Strengthened by grooves formed in base, the package is flexible to the hand, yet rigid enough to stack well in a display case.

Polyethylene formed for food

Vacuum-molded base with heat-sealed film top gives Canada a new concept of tough, tight, semi-rigid, all-transparent package

A new kind of food package—one that is completely transparent, hermetically sealed, economical, semiflexible and, at the same time, rigid enough to be stacked without crushing—has made its appearance in Canada. It apparently marks the first use of vacuum-formed polyethylene sheet material in food packaging. Although much larger in size, the packages are somewhat comparable to the Kraft Foods Co.'s "Portion Control" single-service units for condiments, which are vacuum formed from polystyrene sheet.

Crescent Cheese Co., Montreal, has introduced the unusual new package for its "Kurds" creamed cottage cheese. Although this first application is on a relatively small scale, it would seem to point the way toward a great number of possible future uses in the food field. It offers an inexpensive combination of moisture-resistant, semi-rigid container and 100% visibility that has been difficult to achieve until now. And, since polyethylene is the

major material in the construction of the new package, its adoption as a container for products such as ice cream or frozen foods, that must be held at low temperatures, is an interesting possibility.

Major component of the new package is a 1%-in. deep base that is vacuum formed from a sheet of light-gauge polyethylene. The forming operation produces a rectangular depression in the sheet which gives the package its basic shape. Around this depression, on all four sides, a lip of polyethylene about half an inch wide is left. To make the finished package, a sheet of polyethylene-coated cellophane (300 MST, extrusion coated) is heat sealed to the lip.

This method of construction creates a package which has a certain amount of rigidity. A pattern of grooves pressed into the base and side walls during the vacuum forming increases the rigidity. It also provides a seal which acts as a barrier to moisture and air for the protection of perishable or liquid contents. And, since the principal material is polyethylene only

20 mils thick, cost is relatively low.

Since polyethylene is chemically inert and taste free, it makes an ideal material to contain cottage cheese, the acid content of which tends to react unfavorably with most other packaging materials. The new package still is not down to the price level of the paper cup, but if its use becomes more extensive and mechanized production replaces current hand operations, it could become that inexpensive in the future, Crescent officials believe.

Crescent's package supplier, after vacuum forming the bases 24-up on an automatic machine, heat seals the film lids to them along three edges, the fourth edge being left unsealed. At Crescent's plant containers are filled with cottage cheese through the open edge like a bag. Each package is placed on end, a nozzle is inserted between the unsealed edges and cheese is gravity fed from a hopper, 1 lb. to a container. This edge is then heat sealed electronically.

In retail outlets the rectangular

¹ See "Portion Control," Modern Packaging, April, 1952, p. 90.

transparent packages, topped with film that has been printed in three colors, can be an eye-catching feature of a refrigerated dairy case. The containers measure 6 by 4 in. and their rectangular shape makes it possible to pack them solidly into a case without the necessary gaps which occur between conventional 8- or 12-oz. round paper cups.

Excellent red-and-blue printing on the transparent-film cover features Little Miss Muffet, who "sat on her tuffet, eating her Crescent Creamed Kurds Cheese." All data essential for self service, including a circular price

spot, are included.

The package can be easily opened by the consumer merely by slitting the top with a knife along a dotted line that is marked on the cover. With the cellophane cover completely removed, the base can be used as a serving dish for its contents. But Crescent doesn't push continued re-use.

"We feel the housewife is getting all cluttered up with too many of these 're-usable' packages," says Moe Beren, the company's vice president and general manager, who had much to do with developing the new container. "We'd rather she regarded this as an inexpensive package she can discard after use. All we hope to accomplish is the protection of the creamed cottage cheese during merchandising and in the home until the package is opened."

But re-usable or not, the Crescent Cheese Co.'s new package is a very unusual combination of visibility, flexibility and protection—rugged enough to be bounced off a stone floor and rigid enough to be piled up in a supermarket's dairy case. Food packagers in the U. S. will be watching its progress. Patents on the construction are pending.

CREDITS: Package design by Samuel Fogel, 401 Brookfield St., Montreal. Containers formed and pre-sealed by American Paper Box Co., Ltd., 5700 Fullum St., Montreal, using vacuum-forming machine by the Auto-Vac Co., Fairfield, Conn. Rotogravure printing of polyethylene-coated cellophane covers by Polycraft Co., Ltd., 2999 Broadway, Montreal. Polyethylene sheet material by Canadian Industries, Ltd., P. O. Box 10, Montreal, and Visking, Ltd., Lindsay, Ont. "Cellothene" polyethylene-coated cellophane film by Cheslam Corp., 284 Nepperham Ave., Yonkers 2, N. Y., through Twinpack, Ltd., Montreal. Heat sealers by Vertrod Corp., 17 Williams Ave., Brook-'yn 7, through Herman & Leal, Montreal.



PRIOR TO FILLING, the cover is applied from a continuous web of film and heat sealed on three sides. The containers are then cut apart. The fourth side of the container is left open for filling. Unprinted film was being used at the time this photograph was taken.



FINAL SEALING of filling edge is accomplished by passing containers through jaws of electronic heat sealer. Seal is so tight packages can be bounced on stone floor without opening.



FILLED LIKE A BAG, container is simply held under filler nozzle inserted in open side of the cover. Measured fill of the container is 1 lb.

IN RETAIL CASE, the Crescent packages offer striking display face, in contrast to conventional cup packages at right, and stack high without waste of store's cabinet space.



Labeler becomes a filler

Adaptation to load bouillon cubes 12 at a time into plastic jars again demonstrates versatility of a basic vacuum pick-up-and-place motion



A new kind of machine...

ADAPTED FROM LABELER of standard vacuum pick-up type, this novel filling machine loads 12 bouillon cubes at once into three containers. Operator feeds plastic jars (coming from left) into machine three at a time, vacuum head lifts cubes from conveyor at rear, deposits four at a time in each of three jars. Three cycles complete three layers in each container.



...and the problem it solves

POLYSTYRENE CONTAINERS now being used for part of Herb-Ox production offer many sales advantages, but before perfection of new machine they could only be filled by hand. Thermoplastic label, wrapped around three sides, gives more room for display trademark; fourth side, left clear, gives consumer a view of the contents.

As a food-packaging problem, the bouillon cube is in a class by itself. Just what can you do with a tiny foil-wrapped block only $\frac{9}{16}$ in. on a side that must be well protected from moisture?

For some time The Pure Food Co., Mamaroneck, N. Y., has used a tubular metal tin to pack its Herb-Ox Bouillon Cubes in groups of five, designed to do an adequate moisture-proofing job for this very hygroscopic product.

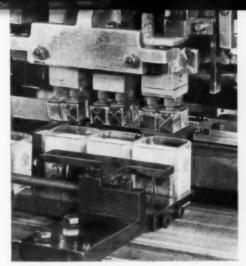
About two years ago Pure Food introduced a totally new kind of package, which holds 12 bouillon cubes. And, more recently, the company has hit upon a novel way of filling it. The package is a square-shaped molded polystyrene container whose wide mouth is topped with a square metal closure and glued-on innerseal. The filling process uses, in novel fashion, a standard semi-automatic vacuum pick-up labeler that has been converted into a pick-up-and-place filler.

A thermoplastic label can now be wrapped around three sides of the package, making possible a much larger brand-name indication on the front and greater space on the sides for descriptive and "sell" copy.

The fourth side is left clear, giving customers a chance to see the actual cubes inside the container—something they could not do before. The large square opening makes it easier to remove the cubes as they are needed and the snap-on metal closure with innerseal protect them from moisture. Once the innerseal is broken, the metal cap preserves the contents during the period of use.

Before the war, Pure Food made its first experiments with a large-size transparent container for bouillon cubes. At first, a round glass jar was used, but customers complained that it was too hard a job to get out the cubes. This difficulty was apparently solved by the adoption of a specially designed square glass container. But

See Modern Packaging, May, 1953, p. 109.



TINY SUCTION CUPS used to pick up and place bouillon cubes can be seen in this close-up of machine in operation. Vacuum lifting of cubes is only possible when product has six identical surfaces, since clearance around edge of cup is very small.

the wartime ban on special glass molds forced this, too, to be discarded. After the end of the war, Pure Food decided that plastics offered the best container-material possibilities.

Plastic containers appear to have made a good impression on both retailers and consumers, for sales are increasing steadily. But when first introduced, they presented the plant with a rather difficult packaging problem: there did not seem to be any filling machine on the market which could place 12 cubes of this size into a container in three even layers of four each.

So hand filling appeared to be the only course open. This meant, at times of peak production, that from 10 to 20 girls had to sit around a table and painstakingly fit 12 tiny cubes into each of the containers.

This arrangement worked in fairly satisfactory fashion as long as the new package was just feeling its way onto the market, but as production levels increased, the need for a more mechanized method of filling became stronger. Efforts to find a machine for the job, however, were frustrated by the unique requirements of the new bouillon cube container. Strangely enough, the inspiration which led to breaking the bottleneck came from the labeler which Pure Food was and still is using to affix thermoplastic labels onto the new plastic jars.

This is a standard vacuum pick-up labeling machine—familiar throughout the packaging field—which has been adapted to special uses by other com-



WHOLE PACKAGING LINE can now be run by five operators, turce of whom are shown here, rather than 10 to 20 which were needed for hand packaging. Girl in foreground sees that cubes feed from trough into the narrow divided conveyor leading to filler (center). Plastic jars flow toward filler from the opposite direction after being labeled (background). Filled containers move off at right of the machine to be capped.

panies in the past.² The machine's manufacturer suggested that the same basic pick-up and put-down operations used in placing the labels into position could also be used to deposit tiny cubes in the container.

Working in its usual way, the labeler3 uses a heated suction mouthpiece to lift the top label off a stackedup supply and transfer it onto a container which has been set in position by hand to receive it. On the new machine, this single mouthpiece has been replaced by a set of 12 tiny rubber suction cups, each ½ in. square, which lift a dozen bouillon cubes at a time and place them into position, four each in three plastic containers. This is the only essential change that has been made in the labeler to convert it into a filler, except of course, for the removal of the heating element or glue pot.

Although these two jobs—picking up and placing labels and doing the same thing for bouillon cubes—might appear to be very similar in most

GLUED-ON INNER SEAL fits on top of 12-cube container, underneath snap-on metal closure. It protects bouillon cubes, which are very sensitive to moisture, and also prevents pilferage,

respects, there were a number of complicating factors to be reckoned with before the new filler actually could be used in full production.

Using the new pick-up-and-place machine, only five girls are needed to run a packaging line for the Herb-Ox plastic jars. Individual cubes, after

Herbox

VESCTABLE
BOUILLON
CUBES

COMMANT NO. MAM

² See "It Pays to Improvise," Modern Packaging, April, 1953, p. 172.

See "Thermoplastic Labeler for Bottled Products," MODERN PACKAGING, Sept., 1946, p. 129.

having been stamped out and wrapped in foil, are loaded into a hopper which funnels them into a trough. The first girl feeds cubes from the trough onto a narrow conveyor belt, on top of which are set metal guide bars which channel and align them into two even, compact rows. These two rows of bouillon cubes move toward the filling machine.

Meanwhile, from the opposite direction, a second conveyor belt, parallel to the first, brings empty plastic jars up to the same machine. The second operator has unloaded the jars from cartons, fed them by hand into the labeler, then set them onto this second belt.

The third girl operates the filling machine itself. She gangs the plastic containers in groups of three and feeds them into the throat of the filler. When the three containers are in position, the set of 12 vacuum cups

lifts 12 bouillon cubes from the supply lined up on the first conveyor belt and lowers them into the containers, four cubes going into each jar at a time. As the containers remain in position, a second and then a third repeat performance of this filling action takes place, so that 12 bouillon cubes, in three layers of four, eventually fill each container.

When they are completely filled, the three containers are shoved back onto the conveyor and replaced by another set of three. The filled jars move along to a fourth girl, who operates Pure Food's special machine for capping them with glued-on innerseals and applying the snap-on metal closures. At the end of the line, the sealed jars are loaded into cartons of 12 and a dozen of these cartons are packed to the shipping case.

Since the filler is being operated by Pure Food at a rate of 38 filling cycles per minute, filled containers emerge from it, three at a time, at the same 38-per-minute total.

Currently, The Pure Food Co. is using packaging lines like this to fill plastic containers for its beef, chicken and vegetable bouillon cubes. And each line, using just five operators and a filler that actually is a modified standard-model labeler, can turn out finished packages at a faster rate than could 10 to 20 girls doing the job by hand-filling methods.

CREDITS: Modified "Pony Labelrite" machines and "Pony Label-Dri" labelers by New Jersey Machine Corp., 16 & Willow Ave., Hoboken, N. J. Polystyrene containers molded by Wilpet Tool & Mfg. Co., 244 Dukes St., Kearny, N. J. Labels by William W. Fitzhugh, Inc., 49 St. & Second Ave., Brooklyn 32. Metal closures and "FilmaSeal" innerseals by Ferdinand Gutmann & Co., 3611 14 Ave., Brooklyn 18, N. Y.

Ice cream molds itself in a vinyl package

A new Borden ice-cream product called "Elsie-Molds" is being introduced this month in most Borden ice-cream operations in the United States. This package that molds the product in a decorative shape is in principle the same as the formed vinyl plastic cup shung in a paperboard collar introduced about two years ago

for butter and margarine. "Elsie-Molds" are individual servings of ice cream and sherbet, with each serving contained in its own disposable, clear vinyl plastic film mold. Retail marketing is in window-front cartons containing four molds.

See "Package That Molds the Product," Modern Packaging, May, 1953, p. 90. Advantages pointed out by Borden are these: The low-cost molds of cast vinyl sheet film make it possible to offer the housewife fancy, party-type molded desserts without a premium price tag. Most molded ice cream and sherbets today are special-order items sold at relatively high prices.

Because the new dessert is sold right in the mold, it is easily handled and stored without danger of the molded form being damaged. The plastic-film molds containing the ice cream are supported within circular paperboard collars with paperboard lid at one end so that the ice-cream-sherbet combination is completely sealed. Serving is accomplished easily by removing the paperboard lid and pushing the dessert out of the film mold from the back.

Chedits: Vinylite cast vinyl sheet by Bakelite Co., 30 E. 42 St., New York. Caps by Dixie Cup Co., Easton, Pa. Filing machines by Anderson Bros. Mfg. Co., Rockford, Ill. Window cartons by Container Corp. of America, 38 S. Dearborn St., Chicago, and Fibreboard Products, Inc., 1789 Montgomery St., San Francisco. Collars by Chicago Mailing Tube Co., 1040 W. Vernon Park, Chicago. Capper and mold-forming machine built by Bartelt Engineering Co., 1900 Harrison Ave., Rockford, Ill., from designs owned by Leo Peters.

VINYL MOLD is easily removed without damage to ice cream and sherbet.



Libbey's 3-way carton

Open, it's a two-position display setting for glassware;

closed, it can be used as a gift box

Here's one way to get the most out of a single folding box: Design it to be used as an attractive gift package, as a display container that stands up to show its contents on the counter, or as a carton that gives prominent attention to a nationally advertised brand name even while lying flat on the shelf.

The new package which Libbey Glass Div. of Owens-Illinois Glass Co., Toledo, has created for one of its Hostess Sets of table glassware can play any of these three roles. Changing from one to another involves only the simple matter of leaving the cover closed or folding it back to either of two positions.

Long convinced of the advantages of pre-packaging for glassware, Libbey for many years has used conventional set-up boxes for its retail line. These cartons were designed to serve as attractive gift packages, since nearly 80% of the glassware is purchased for this purpose. While the covers carry the identification, "Libbey Hostess Sets," this is lost or minimized when the covers are removed to display the contents.

Libbey was sure that its nationally advertised brand name has considerable impact at the point of sale, so it decided to attempt to recapture this advantage with a redesigned carton. Since a prime concern was to keep the finished package looking like a gift carton, it was decided that the printing of the new box should simulate expensive gift paper, touched off with a fancy bow. Yellow was selected as the color most suitable for all gift occasions.

With this design requisite in mind, the new, re-engineered Hostess Set was evolved. It is a folding box made of 0.030 caliper white patent-coated board with a kraft back, printed in three colors and varnished. The box is made from two die-cut and scored sheets which also form the eight inside partitioned compartments to hold individual glasses.

TOP CLOSED, new Libbey tuck-in-top carton with its printed ribbon and bow, makes an attractive gift package, yet is convenient to store and handle.



OPEN HALF WAY, flaps can be folded back to form easel support for table or counter display. Partitions are integrally formed from same single piece of folding board.



OPEN ALL THE WAY, flaps fold completely under the carton, giving full display to brand name on all four sides of the box.



As a display piece the new carton has several unique features. Since it has a divided top, each half can be folded back and under to leave the eight pieces of glassware fully exposed. Or, the top half can be folded back part of the way and used as a display standard to raise the carton to a 45-deg, angle. When the top cover is folded back to either position

the exposed edges of the carton identify the merchandise as a Libbey Hostess Set. All four edges have been imprinted to retain this identity.

CREDITS: Package design by W. L. Stensgaard & Associates, 346 W. Justine Ave., Chicago. Cartons produced by The Spitzer Paper Box Co., 3051 Monroe St., Toledo 6, Ohio.





PACKAGING PAGEANT

1 C. D. Briddell Co.'s Knife Safe cutlery set gets a sales boost from a corrugated carry carton that converts to a display by folding back the die-cut top and bending down the front portion to form a rear riser. Box, Hinde & Dauch, Sandusky, Ohio.

2 A new bottle, label and carton for Bromo Seltzer reportedly represents the first major redesign program in the 68-year history of Emerson Drug Co. The new package is aimed to meet today's retailing requirements: horizontal logo for mass display, bottle photograph for product recognition, ethical appearance. New bottle cap is also a dosage measure. Design, Lippincott & Margulies, New York. Cartons, Guilford Folding Box Co., Baltimore, Md.

3 Lithographed "reminder caps" on its Plantation Blackstrap Molasses do a cross-selling job for other products of Plantation Foods, Inc., which is aiming at wide brand recognition for its dietary foods among wholesalers, retailers and consumers. Caps, Crown Cork & Seal Co., Inc., Baltimore, Md. Jars, J. Rabinowitz & Sons, Inc., Brooklyn. Labels, Rossotti Lithograph Corp., North Bergen, N. J.

4 Household ammonia reportedly is marketed in metal cans for the first time with Sunlight Chemical Corp.'s new 22-oz., tinless, nondrip can, fabricated from a suitable





metal plate. Lithographed can has screw-top styrene cap, aluminum nozzle and cemented side seam. Cans, American Can Co., New York. Caps, Gibson Associates, Berkeley Heights, N. J.

Hutzler Mfg. Co.'s animal-shaped cookie cutters take on new sales appeal in sets of 12 packaged in a colorful "Big Top" folding-book carton with transparent acetate windows. Sets of four cutters are packaged in polyethylene bags with saddle labels and stiffeners. Design, George Reiner, New York, Cartons and saddle labels, Tri-Boro Carton Co., Inc., Brooklyn. Polyethylene bags, Cellu-Craft Products Corp., New Hyde Park, N. Y.

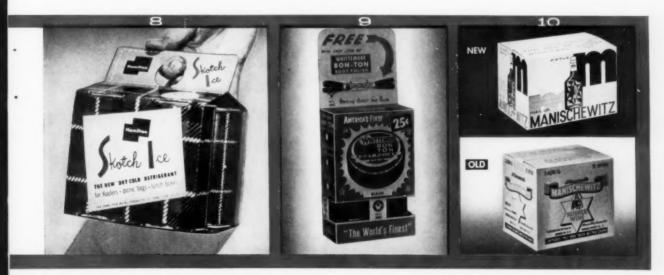
First use of a polyethylene plastic tube to package a soap product is claimed by Triocin Div. of Zotox Pharmacal Co., Inc., for its Triocin Blue Foam. A gentle squeeze extrudes the soap. Resilient tube snuffs back excess soap and retains its shape. Tube, Bradley Container Corp., Maynard, Mass. Cap, Machinery Molding Co., Arlington, Vt. Transparent acetate container, Thames River Div., Robert Gair Co., Inc., New York.

Pink, gold and blue pastels carry family identity for seven items of the new "In the Mood" toiletries being sold direct to housewives by the J. R. Watkins Co. Cartons and labels are made at the Watkins company's own plant. Boxes, W. C. Ritchie & Co., Chicago. Bottles, stoppers and metal closures, Owens-Illinois Glass Co., and its subsidiary, Kimble Glass Co., Toledo, Ohio. Design, Charles Magers, Hopewell, N. J.

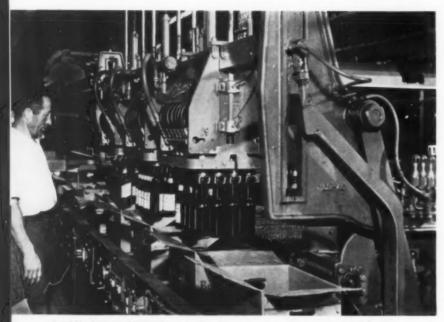
Here's another new role for the carry carton. Hamilton Metal Products Co. puts four 6-oz. cans of Skotch Ice, a dry-cold refrigerant that doubles for ice cubes, in a plaid-decorated carton convenient for picnics, camping, fishing, etc. Cans can be refrozen for re-use. Carry carton, Robert Gair Co., Inc., New York.

9 Self-dispensing pack of Whittemore Bros. Corp.'s Bon Ton boot polish holds 12 jars, allowing ease of customer selection and a minimum of retailer maintenance. Insert display card holds shoe laces offered free as an extra sales getter. Container, Bruce Carton Co., Memphis, Tenn.

Designed for use in dump displays and mass stacking, the new shipper for Manischewitz Wine is made of white-faced corrugated board for maximum visibility and carries illustration of redesigned bottle and label. The company is following up with a monthly service offering new stacking ideas which reportedly can be executed in 10 minutes. Shipping case, Keystone Box Co., Pittsburgh.



Push-button



LOOK, NO HANDS! But as the first step on the returned-bottle line, 72 sets of mechanical teeth on three heads of this latest uncasing machine reach down into three cases simultaneously and lift their contents up and back onto conveyor leading to the soaker and washer.

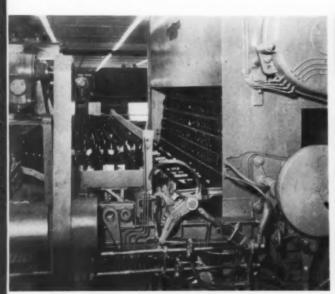
H igh-speed automation in the handling of cans and bottles reaches a new peak of efficiency in the brand new Los Angeles brewery of Anheuser-Busch, Inc., the famous old St. Louis company which has long been a leader in progressive beer packaging. The sprawling one-story plant, Anheuser-Busch's third, is geared to turn out the company's Budweiser in bottles, cans and kegs at a rate of a million barrels a year.

Almost every conceivable new automatic device developed for use in the beverage and beer industries has been installed and many of these represent improved methods of operation which might well be utilized by other segments of the packaging field.

From automatic bottle uncasers at one end of the line to automatic casers and palletizers at the other, there is almost no work for human hands to do. Among the advanced features now in operation are:

• A newly developed duplex can caser which loads 48 cans at a time

See "Cushioned Bottle Carriers," Modern Packaging, Sept., 1954, p. 106.



LINED UP in orderly ranks, returned bottles are laid flat a row at a time and inserted horizontally in pockets of this mammoth soaker, washer and sterilizer.



FILLING AND CAPPING MACHINE of latest design has a 60spout rotary filler and turns out bottles at a 380-a-minute clip. A 50-spout filler is held in reserve for 32-oz, bottles.

beer lines

Anheuser-Busch's big new Los Angeles plant provides a study of all that's new in automation for cans and bottles

and handles two cases at once, thus doubling the previous speed.

A triple-head uncaser which lifts
 72 bottles at a time from these cases.

 Latest-type automatic palletizers so fast and flexible that one machine, through a system of accumulating conveyors, can handle the cased output of two continuously operating lines of bottles in alternation.

 High-speed 60-spout fillers for both bottles and cans.

• The newest mechanical safeguards against defective can fills, including a "feeler" that detects and ejects bulged cans and the new X-ray machine that checks the height of fill.

The most advanced types of highcapacity bottle soakers, cappers, pasteurizers and labelers also help push bottles through the line at a 380-perminute clip. Can lines have the impressive capacity of 525 cans per minute.

At present three lines for bottles and two for cans, plus a section for draft Budweiser and Michelob (this accounts for about 10% of the output), are in operation in the new Los Angeles brewery, where the packag-

ing operation occupies 53,000 sq. ft. of space. Future plans are aimed at an annual production of 1,800,000 barrels.

A study of these lines in action shows what can be done with the kind of improved machinery available today to get fast, economical, efficient production out of a highly specialized, one-product packaging operation.

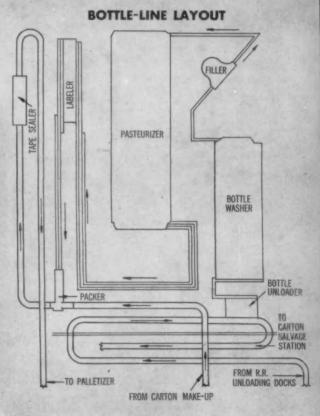
Operation of bottle lines

Each of the three bottling lines is equipped differently. Line No. 1 is used exclusively for 12-oz. export

BOTTLE-LINE FLOW CHART shows location of many automatic machines used in new Anheuser-Busch brewery. Cases of empty bottles arrive from unloading docks at lower right. Bottles are unloaded, washed, filled, pasteurized, labeled and packed into cartons, which are sealed and palletized—all automatically at the rate of 380 bottles per minute. The layout of all three of the company's bottling lines is same as this.



BOTTLE CASER assembles and drops 24 pasteurized, inspected, labeled beer bottles at a time in return-trip case. Re-usable cases are delivered here from head of line.



bottles, Line No. 2 is used to handle either 12-oz. export or 12-oz. non-returnables (the procedure for handling them is the same) and Line No. 3 is equipped for either 7-oz. export bottles or the non-returnable quart size. Here, step by step, is what happens on these three bottle lines, from empty bottle to palletized case:

(1) Returned bottles (12-oz. export) arrive at the plant in multiple-trip, solid-kraft cartons via truck and rail-road car. (The average Budweiser bottle survives nine round trips before being junked.) Returns are carried by fork lift to an automatic case unloader, one of which is installed at the head of each of the three bottling lines. New bottles, both returnable and one-way, are handled in this same manner.

The uncasers are equipped with three heads, each of which unloads a case of 24 bottles at a time—a total of 72 being unloaded simultaneously. When three full cases move into position under the triple heads, three sets of grips come down and grasp the tops of the 72 bottles lined up below them, then lift the bottles up and back onto a flat-top chain conveyor. This cycle is repeated every 11 seconds, as three more full cases come into position, making an over-all speed of 393 bottles per minute possible for the packaging line.

Removing returned empties from cases and placing them in the bottle washer has long been a boring and unpleasant task for bottling-plant workers—and an expensive one for the company. Until the development of this type of automatic uncaser, it always has been a manual job. The new machine makes increased speeds possible and, says Anheuser-Busch, its gentle action has materially reduced bottle breakage during case unloading.

(2) After cartons have been emptied of bottles, they are shunted by conveyors to a balcony area for inspection. The high-grade stock which is used in Budweiser return-bottle cases, plus a rigid inspection program, makes it possible for the plant to re-use 45% of the cartons returned. Partitions are removed and inspected also; about 80% of them are re-usable. Cartons and partitions that have been damaged beyond further use are baled and sold as Grade A stock.

(3) All the bottles—both returns and the new ones—are lined up in single file and pass an inspection table, where they are carefully scrutinized for chipped crowns or other blemishes. Imperfect bottles are discarded.

(4) Leaving the inspection table on the conveyor, the bottles make a 90-deg, turn, to be lined up in front of the soaker. Bottles are formed into rows of 32 and, as each row of horizontal pockets in the soaker rack rises into position, the 32 bottles in the front row are flipped on their sides and pushed into the awaiting pockets. Bottles rise, dumbwaiter fashion, and are carried through a thorough soaking and label-removing process. They receive successive washes with caustic

solutions and sprays, are sterilized in a 165-deg. sodium hydroxide solution, then turned upside down, flushed and the interiors rinsed with 70-deg. tap water. These new soakers, incorporating the very latest in bottle-washing technique, are said to be able to remove labels completely from re-used bottles and expel them immediately from the machine.

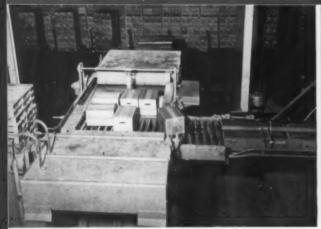
(5) Bottles leave the soakers rightside up and are carried by another flat-top chain conveyor to low-pressure filling machines of the latest design, operating at a 380-bottle-per-minute rate. Each of the lines uses a 60-spout filler, with a 50-spout machine also being held in reserve on Line No. 3 for use when it is handling 32-oz. bottles. During the filling process, each bottle is lifted on an individual elevator into one of the stationery filling tubes of the machine.

(6) Each filler is integrally connected with a capping machine, where the bottles, their contents now chilled to 34-38 deg. F., are crowned.

(7) Again, flat-top chain conveyors on all three lines move the bottles into pasteurizers. Each of these has five compartments, which first raise the beer's temperature to 140 deg. F. to kill yeast and render the contents inert, then reduce the temperature to 70 deg. Bottles are moved on walking beams at a rate of 380 per minute, with the entire pasteurization process lasting from 55 to 60 minutes.

(8) After coming out of the pasteurizer, bottles move past a back-lighted

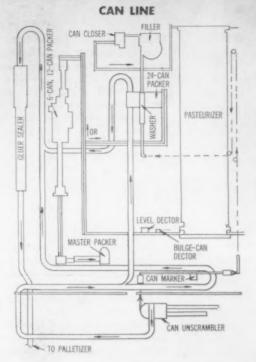
Automatic palletizers switch from one line to another

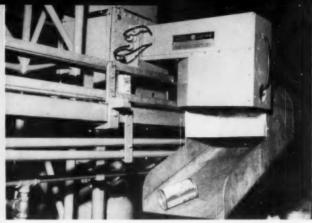


PALLET LOADER handles bottle cases at 35 a minute, filling one load in alternating six-layer pattern while another load accumulates from second line.



AT LOWER LEVEL, the palletizer delivers the neatly stacked loads to a fork truck. The fork truck will deliver the stacked loads as a unit to truck, freight car or warehouse.





X-RAY DETECTOR, one of the newest of brewery inspection devices, rejects a can which has been found to be filled below the specified level of fill.

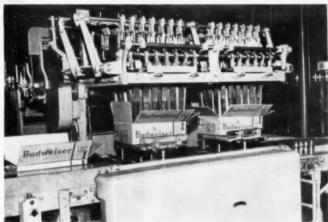
CAN-LINE FLOW CHART shows arrangement of machinery on line used for either 24-can cases or 6- or 12-can carry packs. At division point in conveyor line (left center of diagram) cans may be shunted to either type of packer. Dotted lines on right show where cans are raised by conveyor and elevator through the ceiling to pass over the pasteurizer. The second can line is used only for 24-can cases.

visual inspection station, where the beer is again given a close check.

(9) Six-head labelers next apply body and neck labels simultaneously. The labelers are laid out in a tandem arrangement to make it possible to handle a large number of bottles at a relatively slow speed per head. Thus it is possible, Anheuser-Busch officials feel, to get better finished labeling.

(10) After being labeled, the bottles are ready to be packed, 24 at a time, by semi-automatic casers. Leaving the labelers, the bottles move in three lanes along a flat conveyor chain to the entrance of the caser where, by crowding and slight agitation, the bottles are split up into six lanes. The first four bottles in each of these lanes are then pushed forward off the conveyor onto a grid. This consists of a set of six offset slides which hold the bottles until a series of trip mechanisms is actuated. This will happen only at the precise moment when 24 bottles are seated on the grid and an empty carton has been raised directly underneath them on a table. When bottles and case are in position, the slides move sidewards and the bottles drop down into the case. The table immediately lowers the filled case and ejects it onto a roller conveyor.

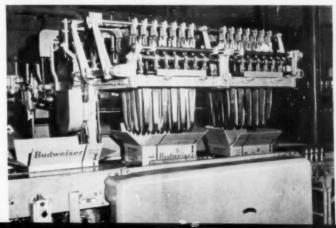
Empty cases are fed into the packer on a conveyor belt which brings them from the carton make-up department. Here a case former supplements the

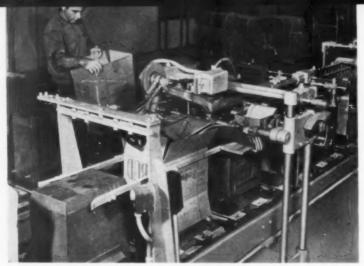


Can caser fills two at once

NEW DUPLEX CASER for cans lines up two cases and fills them simultaneously, doubling speed of line. Here cases are rising to meet fingers through which will drop a set of 24 cans into each case.

FILLED, the two 24-can cases drop away from the loader and will move away on conveyor to case scaler. Cases from both the carry-pack machine and the 24-can duplex machine are handled this way.





CASE FORMER is used for setting up new returnable bottle cases. Squared-up case is dropped over a mandrel, as seen at left, and bottom flaps are glued by conventional case-sealer device, leaving top open for filling. A certain percentage of new cases is constantly fed to returnable-bottle lines to replace those which have been rejected as worn out.

supply of re-usable cartons. Flat cartons are squared up by hand by an operator, who then drops them over mandrels moving on an endless chain. These take the cases into a case sealer, which glues and seals the bottoms. After leaving the compressor, the cases are removed from the mandrels, inverted and set on the conveyor which carries them to the bottle packer.

(11) After being loaded with 24 bottles, the cases move to an automatic taping machine, where dated 3-in, gummed paper tape is applied

to close the flaps.

(12) Finished cases now travel on an overhead conveyor to one of the four new automatic palletizers, which are among the first of their type to be installed in the industry. These stack cases on 33-by-38-in. pallets in a prearranged, interlocking pattern. This uses different carton arrangements on alternating layers to eliminate unbroken vertical lines and give greater stability to each pallet load. Cases of 12-oz. bottles are piled up in layers of seven, six layers to a pallet.

Since one of these palletizers can work at a rate of as much as 35 cases per minute, it can handle the output of two lines in alternation. Accumulating conveyors are used to build up a pallet load of cases from one line while the palletizer is working on the other line. As soon as one pallet is loaded and moved off, an electronic cartridge device, which automatically controls all the machine's operations, "calls up" the waiting load.

As each carton moves into the palletizer, a photo-electric cell signals whether it is to be turned 90 deg. by a rotator bar or sent into the loader unturned. As soon as one row of cartons is formed, a ram pushes it onto a stripper plate. The ram then moves back and shoves additional rows onto the plate. When a full layer has been accumulated, the stripper plate retracts from under it and the cartons drop 1 in. onto a pallet, which is waiting in position. The pallet then lowers, the stripper plate goes back to its original position and a second laver is formed in the same way, using the alternate pattern. When the desired load has been built up on the pallet, it is discharged onto a conveyor and a new pallet from the magazine moves into position under the stripper plate, ready to receive cases.

The use of these new automatic palletizers has practically eliminated manual handling of cartons and reduced handling costs, Anheuser-Busch has found. In addition, in-the-case breakage of bottles has been cut almost to the vanishing point.

(13) Pallet loads of cases are moved by fork lift to waiting rail cars or trucks, or to be stored in one of the new plant's two warehouses. The second warehouse is used for storage of returned empty bottles.

Operation of can lines

The Los Angeles plant is currently using only the standard 12-oz., flat-top can and the two can lines are identical except that one packs only into

24-can shipping cases, while the other is adaptable either to 24-can cases or to preliminary cartoning in either 6- or 12-can carry packs and semi-automatic placement of either eight or four of these in a 48-can case by a master packer.² Here's how these lines turn out canned Budweiser at a 525-can-per-minute speed;

(1) Empty cans arrive at the plant in 24- or 48-can repack cases which are closed, but not sealed. The cases are loaded onto pallets and moved next to a 525-can-per-minute unscrambler, into which the cases are inverted and emptied by hand. The empty cartons are then shunted by conveyor to the other end of the packaging line—24-can cases to duplex casers, 48-can cases to the master packers which handle 6- or 12-can carry packs.

(2) Upside down and arranged in single file, the cans move along a conveyor and are raised by an elevator to an automatic can marker which stamps code and date markings on the bottoms as the cans move through it.

(3) Marked cans, still inverted, are now carried high overhead to a sterilizer, where they are rinsed and any foreign matter is removed.

(4) After being sterilized, the cans move down another conveyor and are turned right-side up as they go into either of the two 60-spout fillers.

(5) An eight-head closer, closely coupled with filler, then applies the can tops.

(6) Closed cans are carried on a flat-top chain conveyor into one double-decked pasteurizer, which handles the output of both can-filling lines. The same 35-140-70-deg, temperature cycle used for bottles is followed, the total process here taking only 40 minutes.

(7) After being pasteurized, the cans are inspected by means of a newly developed bulged-can ejector. This equipment consists of two star wheels to space out the cans and a hinged arm which rides above the tops of the cans as they pass along the chain conveyor. There is just enough clearance beneath this indicator for a normal can to pass; a bulged can raises the arm and activates a microswitch, which triggers an air blast that blows the defective can from the line into discard.

(8) Alongside the bulge detector is an X-ray level detector, which uses a

² See "Faster Can-Carrier Cartoning," Modern Packaging, Aug., 1954, p. 102.

low-intensity X-ray beam to determine whether cans are filled to the proper height.3 Under- or over-fills are air blasted off the line if the beam activates a tiny cadmium sulfide crystal. This extremely sensitive device can detect difference in level of as little as

³ See 'Fill Check by X-Ray," Modern Packaging, April, 1953, p. 197.

1/32 in., eliminating the need for weighing equipment.

(9) Cans now move along a chain conveyor to one of the novel duplex packers. This new piece of equipment (here in only its third installation anywhere) packs 48 cans simultaneously, handling two cases at a time instead of the usual single case. On one of the two lines, as mentioned before, cans may bypass this machine and go to a carry-home packer.

As the cans move into the duplex packer, a cam-actuated oscillator feeds them into 12 lanes, six headed toward each half of the machine. As the cans crowd into each lane, they exert pres-(This article continued on page 198)

This beverage pallet loader also unloads

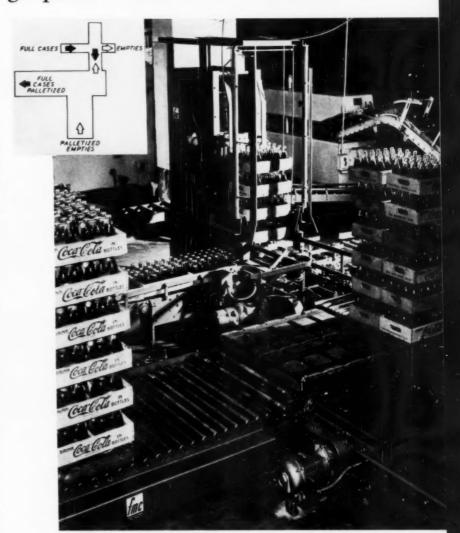
One of the last gaps in mechanization of soft-drink bottling has been filled at the Coca-Cola Bottling Co. plant in San Bernardino, Calif., with a recently developed automatic pallet loader designed either to stack full cases onto pallets or to unload pallets of cased empties-both at 15-case-per-

minute rates.

Full cases feed into the new machine on a roller conveyor, with stop bars automatically controlling their rate of entry. An automatic stacker builds the cases into a pile of four, five, six or seven, as desired. Three pick-up fingers on a hydraulically operated carriage lift each case upward, where it is held in position to allow the next one to move in beneath it. When the pre-determined height is reached, the entire stack is lowered to a chain conveyor, which carries it to its proper position on an accumulator. When three stacks have been accumulated here, a hydraulic slider arm slides them gently onto a waiting pallet. This arm then returns, waits for three more stacks and then shoves these also onto the pallet. Loaded with six stacks of filled cases, the pallet then is ejected by roller conveyor and picked up and moved by a fork lift.

Reversing this process, the machine can also be used to unload cases of empty bottles merely by turning a switch. Palletized stacks from one to seven cases high are fed into the accumulator, three stacks at a time, by the hydraulic slider arm. Single stacks then move into the machine, are unstacked and individual cases of bottles are ready to move to the bottle washer. The machine can be adjusted to stack and unstack single pallet loads of full cases and empties alternately.

CREDIT: Pallet loader-unloader by Food Machinery & Chemical Corp., Packing Equipment Division, Riverside, Calif.



IN LOADING PHASE, full Coca-Cola cases feed from rear left into automatic stacker (center background) where they are piled in stacks of six. Completed stacks move by a chain conveyor to accumulator (right foreground), from which a slider arm slides them in rows of three onto pallet at center foreground. Full pallets, holding 36 cases, slide off on rollers to left. Complete operation can be reversed by feeding pallet load of cased empties into position from right foreground, with single cases moving off onto conveyor in right rear. Sketch (inset) shows steps in the operation in diagram form.

Self-selling stationery



SUPERMARKET LINE of U.S. Envelope is knit into family group by three-ply theme of trademark symbol, company name and Homeline brand name. Unique feature of envelope pack is bright-color, horizontal, wrap-around strip instead of vertical band.

F or the first time, a large stationery manufacturing firm is introducing a complete line packaged especially to sell itself in supermarkets. A carefully picked group of products, with its own family brand name, its own unique packaging format and its own metal display rack, has been deliberately aimed at a single well-defined target: the self-service customer.

The simplest and yet most unusual development in this strikingly new packaging set-up is the use of horizontal bands for packets of envelopes, rather than the conventional vertical ones, to give greater brand-name and sell-copy space.

United States Envelope Co., Spring-field, Mass., one of the country's largest makers of quality stationery, has long been watching supermarket sales of envelopes, writing paper and school notebooks steadily mount, as have those of so many other nonfood items. In fact, a recent survey showed that two out of three self-service food stores were selling stationery supplies of some sort.

But in almost every case, these products have been handled on a

hit-and-miss basis. They might be found on top of the frozen-food cases or on the shelves of an out-of-the-way gondola behind the vegetable bins. Stationery packages themselves were a miscellaneous assortment of shapes and sizes; few of them had been designed with self-service appeals in mind. Obviously, a completely new approach was needed if stationery was to win a permanent place in the supermarket picture.

In U. S. Envelope's well-studied solution may be found some valuable precepts for every packager of a non-

U.S. Envelope provides a lesson in supermarket strategy

with a labeling and display program aimed squarely at this target

food item who seeks to crack the supermarket barrier.

As has been pointed out many times in these pages, supermarket selling is a very complicated, fast-changing business. It is not something to plunge into without proper preparation. Conventional packages, conventional sales techniques, though highly successful elsewhere, many times have been dismal failures in this dynamically different marketplace. When you decide to adapt a traditionally over-thecounter group of products to a fastmoving, bought-on-impulse line, you must examine carefully the way it looks to a fast-moving, buying-onimpulse customer. And you must consider carefully the viewpoint of the hard-boiled supermarket operator.

U. S. Envelope spent 22 months planning the development of its supermarket line. It made a comprehensive survey that reached everyone who might have something to contribute—chain-store buyers, managers and sales clerks; rack merchandisers and wagon jobbers; stationery retailers and wholesalers; and, lastly, consumers.

Basically, there were four questions to be answered: Where do people buy stationery? When do they buy it? Why do they buy it? And what kinds of stationery items do they buy?

To get complete answers to these questions, personal interviews were made in those parts of the country which had seen the greatest development of supermarket stationery—the Far West and the Southwest. A great deal of information was gathered about the items which had been sold most successfully, about the requirements for merchandise display and instore promotion, about the buying habits of stationery customers and about the best methods of supplying and stocking individual stores with a stationery line.

All this led to a greatly revamped U. S. Envelope merchandising set-up for handling supermarket sales and it also pointed up the absolute necessity for an entirely new kind of stationery packaging. A distinctive brand name and trademark that could be easily recognized and remembered; a type of packaging that made the contents

clearly visible and identifiable; the use of colors that would attract the customer's attention—all these now became vital to the packaging for this new line of stationery.

To do the job, the company made use of a number of relatively simple devices. For many other industries, long familiar with self-service retailing, they would not be spectacular. But for the stationery business, the U. S. Envelope program comes as real

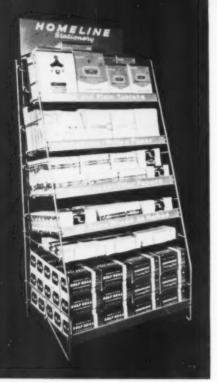
First of all, acting on the advice of a firm of package-design consultants, the company decided that a simple, easily remembered brand name for the entire supermarket line was an immediate need. Products going under a variety of brand names, employing a variety of type styles and decorative schemes, needed something to tie them all together. Even after close inspection of the packages, there was no possible way of telling that they all were products of the same long-established manufacturer, since not even "United States Envelope Co." was to be found on any of the labels.

Studies and tests of a number of possible names finally led to the selection of "Homeline" as the single brand label which would be prominently placed on every item in the line, from tiny note pads to big tablets of writing paper.

Two additional elements also were incorporated as integral parts of the design pattern for all the family of supermarket stationery items. As a company symbol, a six-sided figure enclosing a large "U" around a stylized envelope was developed and this trademark became a part of every one of the individual package designs in the line. Thirdly, the name "United States Envelope" appears in capital

CONVENTIONAL LINE, designed to sell in regular stationery outlets, exhibits no family resemblance. Manufacturer's name is omitted. Trademarks, package styles, lettering vary from item to item.





WIRE RACK provides complete stationery department for supermarket. It holds from 1 to 4 doz. of each of 27 items in line, is serviced by store or jobber. Easily pilfered items are at top.

letters on all packages, with the initial letter repeating the U-and-envelope design.

In combination, these three elements are planned to act as a triple trademark which stationery customers will easily get to recognize and remember. The three symbols, in an assortment of bright colors that contrast vividly with the traditional white of the stationery itself, are used in several different arrangements, depending upon the size of the item. On the packets and boxes used for the company's well-known "Self-Seal" envelopes, a separate, distinctive trademark also appears. All the packets of envelopes—Self-Seal, regular and air mail—are wrapped in cellophane to prevent soiling from handling.

One surprising innovation-so simple that you wonder why it's never been done before-is the use of a brightly colored inch-wide band running lengthwise around each envelope packet, replacing the very familiar vertical paper band. This gives a striking shelf appearance to the packages, especially when several of them are lined up in a row. It also supplies more space for selling copy and for color on the band. But, most of all, it makes Homeline envelopes look entirely different from any others a customer is likely to see on sale. That in itself is an important plus value.

Something for everybody

U. S. Envelope's supermarket line consists of 27 items, all priced at 10, 15, 25 or 39 cents each. There are six 10-cent transparent-wrapped packages of various styles of gummed envelopes—plain, return-address and airmail, return-address envelopes in the regular 3%-by-6%-in. size; plain, legal-size envelopes and two sizes of Self-Seal envelopes. The number in each packet ranges from seven to 13, in order that all may be sold at a standard retail price of 10 cents.

Writing tablets of nine different types are priced at 10 and 25 cents, including ruled pencil pads and "wove" tablets, unruled linen tablets and a pad of thin paper for air-mail letters. The line also includes wirebound notebooks in all three sizes, ruled, three- and five-holed notebook fillers and typewriter paper.

In addition to the 10-cent transparent pack, Self-Seal envelopes are sold in three other ways-in a 25-cent transparent pack, in combination with flat sheets of writing paper and in dispenser boxes. The latter are folding paperboard boxes which have a narrow cellophane window running vertically down one side and a perforated bottom flap which can be torn and folded back. Envelopes can be removed from this slot one at a time as they are needed, with the window revealing how many remain. The box is also useful in protecting its contents from being crushed in a desk drawer, Each one holds 44 Self-Seal envelopes and is designed to retail at 39 cents. A similar box, holding 100, is used for the regular gummed enve-

The transparent-wrapped packets of vellum writing sheets and matching Self-Seal envelopes are U. S. Envelope's biggest supermarket seller. Each combination package contains 10 bordered envelopes and 16 flat 5%-by-7-in. sheets, in white, pink or blue. Retail price of the transparent-wrapped packets is 25 cents each.

Rack gives line a home

Finding a place for any new nonfood product on the jam-packed shelves of today's supermarkets is a major problem. And, when the line involves the number of different sizes and styles which must be included to make up a good assortment of stationery, the problem becomes gigantic.

The Homeline group is so arranged that it can be displayed to good advantage almost anywhere in the store -on gondola shelves or ends, on individual counters or tables. But the company believes that the great majority of the new supermarket-line's sales will be made from its own compact floor display rack. Built to hold a supply of from one to four dozen of every one of the 27 items in the group, this is a lacquered-wire rack which U. S. Envelope provides free to any retailer who orders a complete stationery assortment. It can be located in any convenient spot on the selling floor, where it becomes a complete, organized stationery department that takes up only about 4 sq. ft. of space. The rack now being supplied is the second one (This article continued on page 213)

DISPENSER CARTON for envelopes offers convenience plus protection. Perforated flap folds back and envelopes slide out from bottom. Remaining supply is checked through vertical cellophane window.





COMBINATION DEAL carton (right) locks around both regular Scrutan bottle and sample canister. Display case (left) holds six packs.

Designing a deal

Serutan puts together unique combination of bottle and fibre canister for retail promotion

S ome retail deals or special offers are simple to assemble. When all that's involved is fastening two or more containers together, the packaging problem may be nothing more complicated than getting the right kind of band or sleeve. But when the combination must include two entirely different kinds of containers, more ingenuity is called for.

The Serutan Co., Newark, N. J., had just that kind of packaging problem recently when it put on the market the first special deal in its history. In a single package had to be combined a regular 3½-oz. glass bottle of Serutan powder and a 1½-oz. sample portion packed in a metal-end fibre canister. Further requirements were that the two Serutan containers be easily separable (so that the bottle could be returned intact if a customer was not satisfied with the sample) and that there be plenty of room on the duplex package for "sell" copy.

Serutan came up with an ingenious solution to this puzzle, developing a combination carton that other packagers might well keep in mind when they face the same sort of problem. It consists of a folding carton that

locks both containers in place without the need for adhesives, provides space for copy on all four sides and yet has a large enough front opening for a good view of the contents.

What's more, this has all been done without investing in expensive new equipment or disrupting the conventional packaging line. By making ingenious use of available fillers and cappers, the special sample-size canisters were packaged at minimum cost.

Empty canisters enter the Serutan filling line through a rotary unscrambler. As they move along a conveyor, the cans are filled in two dumps by a conventional powder-filling head at a 67-per-minute rate. Friction plugs are then placed by hand on each can and forced into place by a converted one-head screw capper. As the cans leave the capper, a specially designed suction blower removes excess powder from around the caps.

The filled canisters then are accumulated to be combined with bottles from the regular filling line. This is a hand operation which makes use of a special forming board furnished by the carton supplier. An inverted carton is set on this board and a bottle is placed in it upside down. The bottle's cap is forced through a round, slotted hole in the closed end, which holds it securely in place. A canister, also upside down, is then placed on top of the bottle and the other end flap of the carton is closed. Bottle and canister, tightly secured, are clearly visible through opening in front.

Combination cartons are then packed either six or 12 to a display case, which has a fold-back top designed to make a counter set-up.

CREDITS: Combination folding and display boxes by International Folding Box Co., 2029 83 St., North Bergen, N. J. Canisters by Harcord Mfg. Co., 125 Monitor St., Jersey City 4, N. J. Powder filler by G. Diehl Mateer Co., Lincoln Hwy., Wayne, Pa. Capper by Resina Automatic Machinery Co., 572 Smith St., Brooklyn 31. Bottles by Owens-Illinois Glass Co., Toledo 1, Ohio. Caps and "FilmaScal" innerseals by Ferdinand Gutmann & Co., 3611 14 Ave., Brooklyn 18. Labels by Loyal Press, 130 W. 26 St., New York I.

FILLING (left) of sample canister is by conventional powder filler, Capping operation (center) converts screw capper to force in friction plugs. Final hand operation (right) completes the special deal pack.







OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, packaging research into processing and handling methods in customer plants, and market research into consumer attitudes, add up to greater specific value for your packaging dollar.



Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.



The Right Container

Versatility of facilities enables Owens-Illinois to supply containers for specialized needs: Duraglas containers for almost any item; Libbey Safedge packing tumblers or premiums; Kimble Ampuls and Vials; and a variety of Owens-Illinois plastic containers.

Your package may need





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MODERN PACKAGING

COMPLETE PACKAGING APPROACH



The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.



Needed Fitments

With emphasis on the word "needed," Owens-Illinois fitment specialists are keenly aware of sales benefits possible through use of fitments which are not "gadgets" but which basically increase consumer satisfaction with your product.



Modern Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

a plastic fitment...



to serve a drop or a handful-

The public will often buy one product over another because of *practical imagination in packaging*.

In today's highly competitive market, the product that holds a package advantage is often the one most likely to succeed. That's why you see more and more "practical packages"—not only attractive to start with, but packages that protect the product and make it easy to use during its life.

Owens-Illinois is proud to be a pioneer in these developments—including new uses of plastics by themselves or to complement other materials. Many packages are improved by plastic spouts or sifters that are rustproof and clean. Plastic slip-caps for other products are efficient and attractive.

At Owens-Illinois, all necessary ingredients of salespackaging are coordinated to secure the sales impact you need. Look to Owens-Illinois as a market-minded supplier for glass containers of all types and capacities; cartons with built-in, point-of-sale value; quality closures in plastic and metal; fitments that meet your dispensing need.

OWENS-ILLINOIS PLASTICS
AN (1) PRODUCT

OWENS-ILLINOIS

GENERAL OFFICES · TOLEDO 1, OHIO



Open season for brushes

A counter display that's hard for shoppers to resist is the Baker Brush Co.'s new "Open House"-a colorful, miniature house mounted on a turntable that holds 10-doz. brushes in all styles and sizes for every painting job-a complete brush department in a few cubic feet. At check-out counters, nearly everyone who passes is inspired to give it a whirl. The display, designed by Baker, is metal, held together with heavy-gauge metal sheeting, silk screened in 10 colors. Amusing cartoon-type illustrations stimulate interest in painting. All the brushes are packaged in distinguishing, snap-fastening paperboard wrappers, re-usable for storing the brushes. (See Modern Pack-AGING, March, 1952, p. 208.) They are self dispensing by gravity feed from a sloping platform under the "roof." Prongs and slots are constructed to accommodate only Baker brushes; dealers cannot refill with competitors' brushes.

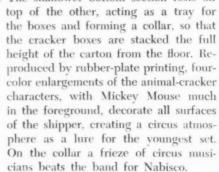
CREDITS: Display built by Perma Wire Mfg. Co., New York. Artwork by I. N. Steinberg, New York.





Double-duty shipping case

A white corrugated shipping case, printed in four colors and fitted with a tear tape, designed for National Biscuit Co., joins the lengthening parade of shippers that undergo metamorphosis at the retail level and become floor display stands. Engineered to hold 216 of Nabisco's 12-by-18-in. boxes of animal crackers, the case can be turned into a display stand as it is opened. Removal of the tear tape located near the bottom of the container separates the carton into two sections, both of which are put to use. The shallower bottom section rests on





CREDIT: Cartons by Gibraltar Corrugated Paper Co., Inc., Clifton, N. J.

Corrugated, frozen-food display

By the use of dry ice or chemical refrigerants, frozen and refrigerated foods and beverages are now being displayed in floor stands of aluminum-foil-lined corrugated board introduced by Swift & Co., Chicago. Developed primarily for two-day, week-end promotions in supermarkets, the low-cost display knocks down flat for ease of handling, removal, re-assembly and re-use. Made of white corrugated board printed in gray, blue and red, the dump display can be packed with dry ice for frozen foods or chemical refrigerants for products ordinarily kept in dairy cases.

Interior of the unit is lined with aluminum foil laminated to corrugated board, which provides a bright interior appearance and also helps insulate the bin. An exterior corrugated collar, extending half way down the side of the stand, printed with brand and product name, creates dead air space which functions as an insulator.

CREDIT: Display stand by Specialty Div., Container Corp. of America, Chicago.



GATLIERY

Violets that bloom on a counter

Association of fragrances with the flowers that bloom in the spring is as certain in the perfumery business as the vernal equinox. But there's always a new way to promote the perennial theme. Yardley of London keys the spring promotion of its April Violets fragrance line to two new point-of-sale tools and the introduction of a combination package, April Violets Bouquet, consisting of a special cologne and a generous sample-size bottle of perfume framed in a violet-colored platform patterned with white violets. Both color and the violets are repeated on the box top.

The counter display is a three-dimensional flower basket constructed of paperboard to hold perfume, sachet, cologne, soap, tale and dusting powder.

The over-all theme is simply, "Like a breath of Spring," executed in colors associated with spring violets. A striking window panel, carrying the theme message and color scheme, accompanies the material.

CREDITS: Basket by Merit Displays Co., Paterson, N. J. Set-up boxes by Continental Printing Co., New York. Window panel by M. H. Lavore Co., New York.



AMA set for Chicago

'Biggest conference ever' to be held downtown while the show goes on for 30,000 at stockyards Amphitheatre April 18-21

The most ambitious packaging program the American Management Assn. has ever attempted is shaping up for this year's annual Packaging Conference, to be held in conjunction with the 24th National Packaging Exposition, Chicago, April

More than 1,500 packaging, traffic and materials-handling executives from all parts of this country and Canada are expected to attend the conference at the Palmer House during the first three days of "Packaging Week."

The Exposition will be going on simultaneously and will continue through Thursday, at the International Amphitheatre in the stockyards district on Chicago's South Side-a new site for the show. The hours of the show have been extended this year, with the daily opening set for 10 a.m.

Registrants at the conference will be privileged to hear first-hand accounts of packaging programs and intimate case histories of accomplishments presented by speakers representing leading industries in several different packaged-goods fields.

As many as six different groups will be in session at one time, so that those attending this year's conference will have opportunity to select the group most closely allied to their own particular interests. Subjects will cover latest developments in packaging, packing, shipping, traffic management

and materials handling.

The Exposition itself is expected to attract more than 30,000 users of packaging materials, equipment and services for the packaging, packing and shipping of industrial and consumer goods. This indicates that all attendance records will be broken. Exhibitors already number 375 and the total may go over 400.

The exhibits alone will occupy approximately 140,000 sq. ft. of space on a single floor of the new Exposition Hall and South Hall of the airconditioned International Amphitheatre, permitting a full panorama on one level. Now the country's largest exhibition space on a single floor, the Amphitheatre was the scene of both national political conventions in 1952.

Richard Wellbrock, vice president, New Jersey Machine Corp., heads the exhibitors' advisory committee.

Conference program

In the Palmer House sessions, designed for manufacturers and sellers of consumer goods, speakers will describe their own packaging programs.

The research directors of Swift & Co. and Armour & Co. will report on experimental work in meat packaging. Another speaker will discuss prepackaging of fresh produce. Other consumer-goods firms to be represented on the program include Penn Fruit Co., Inc.; McKinney Mfg. Co.; several leading variety stores; a major department store; a large drug chain and a drug jobber.

In the industrial field the conference will take up a wide variety of packaging methods and techniques for reducing packaging costs. This portion of the program will stress the "how to" of packaging. Foam and expandable plastics and their present and potential applications will be described. Two large chemical companies will outline their methods of bulk

Three divisions of General Motors Corp. will take part in the industrial sessions, A. C. Spark Plug Division will tell how it applies methods analysis in its packaging program. Ternstedt Division will offer a case history showing how it learned to ship 1,000 different units effectively and economically in multi-unit loads. Buick Division will report on a new program of automatic coating of parts and equipment for shipping.

Socony-Vacuum Oil Co., Inc., will take up simplification and standardization of packages. U. S. Radiator Corp. will stress the importance of concurrent design of product and package and of working relationships with suppliers of packaging materials. The National Cash Register Co. will present its program of cushioning for shipment. Wagner Electric Corp. will describe its cost reduction program and Whirlpool Corp. will report on packaging by automation.

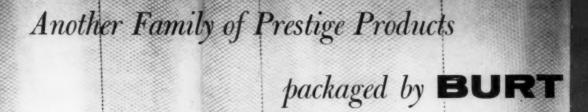
Both industrial and consumer applications will be covered in discussions of what equipment is necessary for the research, development and testing of packages. Representatives of General Electric Co. and General Foods Corp. will speak on equipment required for a packaging laboratory.

The case-study approach also will be used in sessions concerned with machinery for the packaging production line. User companies will describe their practices in such areas as instrumentation, integrated changeover units, preventive maintenance, inventory control and industrial relations. Other conference sessions will deal with packaging materials, including films, foils, paper and boxboard, with analyses of the advantages of each for specific applications.

The conference will open at 10 a.m. Monday, April 18, and close after lunch on Wednesday, April 20. Tuesday and Wednesday sessions will begin at 9:30 a.m.; Monday and Tuesday sessions will close at 5 p.m. The program was planned by A. K. Thorn, AMA packaging division manager, with the assistance of John A. Warren, technical advisor to the division, and the association's packaging planning council, a group of 19 executives of member companies headed by W. L. Romney of Procter & Gamble Co., AMA vice president.

Show hours

The four-day Exposition, which is open without admittance charge to anyone with a business affiliation, will be on display for 32 hrs. from 10 a.m. Monday, April 18, to 3 p.m. Thursday, April 21. Exhibit hours usually will end at 6 p.m.; on Tuesday, April 19, doors will be open until 9 p.m.



F. N. Burt Company Inc.
Manufacturers of Small Set-up Boxes,
Folding Cartons and Transparent Containers
500-540 Seneca Street, Buffalo 4, New York
Offices in Principal Cities Or Write Direct
Canadian Division: Dominion Paper Box Co. Ltd.,
469-483 King St. W., Toronto, Canada.

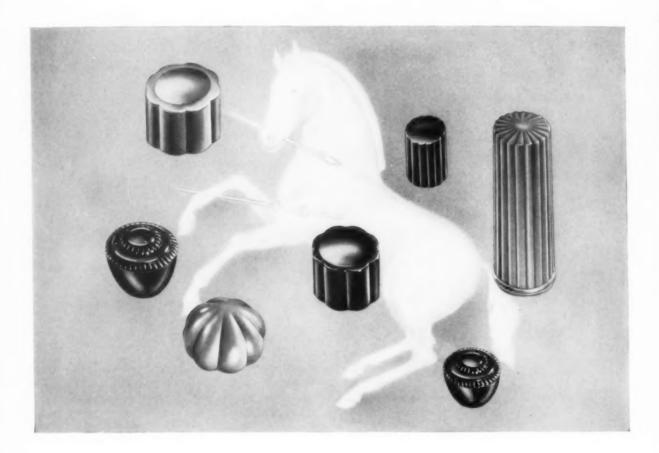




DEODORANT

HOUBIGANT CHERAMY

THE QUALITY guarded by these closures has been made famous by Houbigant and Cheramy. The closures are gracefully styled by Colt's to add charm and distinction of appearance to the unforgettable fragrances by these famous perfumers.



In a variety of shapes and colors, Colt's molded plastic closures effect a harmony of package and product so desired by discriminating women.

Colt's offers a complete service in custom molding — from the conception of an idea to the completion of closure or container... and those looking for stock items will find the same satisfaction. Write for information about this versatile plastics center and the service it offers you.



COLT'S MANUFACTURING COMPANY . PLASTICS DIVISION . HARTFORD 15, CONNECTICUT

MODERN PACKAGING

130

Bright Idea in a Color-Bright Wrap Package by Western Waxed Paper Division. protected Crown Zellerbach Corporation his unique packaging technique These resins enhance appearance eliminates a lot of muss and fuss for and color through higher gloss. mother-and for the soda fountain Wrappers heat-seal stronger...have clerk. No measuring of portions . . . greater scuff and blocking resistance ... resist cracking at low temperano carton scraping . . . no left-over

problem. Individual servings are in easy-to-open cardboard boxes, eneased in outerwrap. Extra-glossy, strongly protective outerwrap-because it's coated with wax fortified with BAKELITE Polyethylene Resin!

ture...have less rub-off.

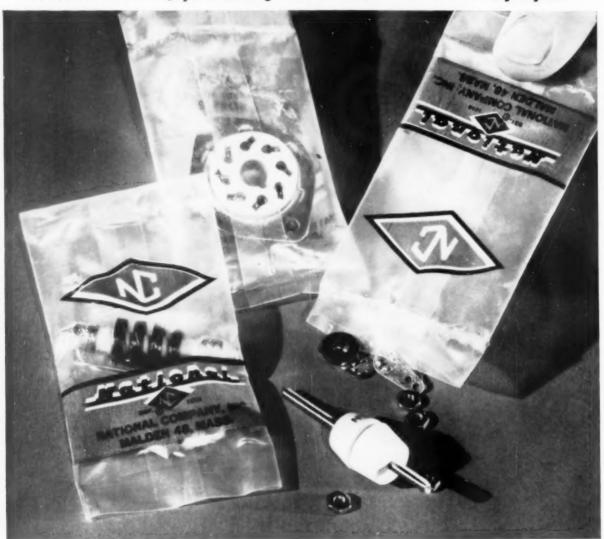
Better outerwrap is only a small part of the contribution BAKELITE Brand Polyethylene makes to modern packaging. For more information, write Dept. BA-84.

Vinyl, Polyethylene, Polystyrene, Phenolic and Epoxy Resins for Packaging



BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation 114 30 East 42nd Street, New York 17, N. Y. The term Bakelite and the Trefoil Symbol are registered trade-marks of UCC

ANOTHER WAY it pays to package in film made of BAKELITE Polyethylene



Packaging by Pacific Paper Products, Inc., Lawrence, Mass.

"Properly identified and in saleable condition"

That's certainly a very important reason so many industrial and hardware parts are packaged in film made of BAKELITE

Brand Polyethylene.

For example, National Company, Inc., Malden, Mass., well-known manufacturer of electronics components and equipment: Says Walter T. Hynes. Product Manager — Components, "All our small parts are packed in these polyethylene bags. In the case of R. F. chokes, we have a standard package of twelve. We individually pack the twelve chokes in the polyethylene bags... because once the master package is

broken into, the parts are still properly identified and in a saleable condition. These bags make handling easier and are neat in appearance."

From lingerie to padlocks to potting soil to fruit and vegetables, film made of BAKELITE Polyethylene provides admirable packaging advantages for manufacturer, retailer and consumer. Visibility...flexibility and strength...chemical resistance...brand identification... economy and light weight...sound reasons why you should take advantage of nationally-advertised film made of BAKELITE Polyethylene to step up sales.



See BAKELITE's Exhibit, Booth 926 National Packaging Exposition April 18-21, Chicago, III.

BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation 1143 30 East 42nd Street, New York 17, N. Y.

The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC



Envelopes made for American Cabinet Hardware Corp., Rockford, Ill. by Garden City Envelope Company, Chicago, Ill.

Hardware customers like to examine what they buy. These envelopes with windows of Krene Cast Vinyl Film let them do just that. Contents are in plain sight-display themselves, sell themselves. Clerks are free for bigger sales.

The buyer instantly sees the details of these brass fittings. Yet they resist tarnishing because they're never touched. The windows of Krene Cast Vinyl Film have outstanding transparency combined with a toughness that means long-lived protection.

They won't dry out. KRENE Cast Vinyl Film is soft and flexible, yet resists puncturing . . . accommodates irregular objects. It withstands moisture, gases, grease, and chemicals. It's noted for superior clarity, and won't discolor.

You'll find many other packaging possibilities in Krene Cast Vinyl Film. It can be heat-sealed. It has excellent tear strength. It can be laminated to foil. Special formulations are essentially odorless and tasteless.

If your package needs a combination of eye-appeal and shelf life, learn more about Krene Cast Vinyl Film. Samples and information are available by writing Dept. UC-55.

INVESTIGATE BAKELITE" rene **Cast Vinyl Film & Sheeting**

RU.C.C.

BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation 113 30 East 42nd Street, New York 17, N. Y.

paper canisters scour the market!



Sears fast-selling Maid of Honor rug and upholstery cleaner finds its perfect dispenser in a Harcord paper canister. Lid and sift openings both were incorporated to facilitate the actual dispensing of the powder for the housewife.

You Sell It Better ...

because You Say It Best with PAPER CANISTERS by





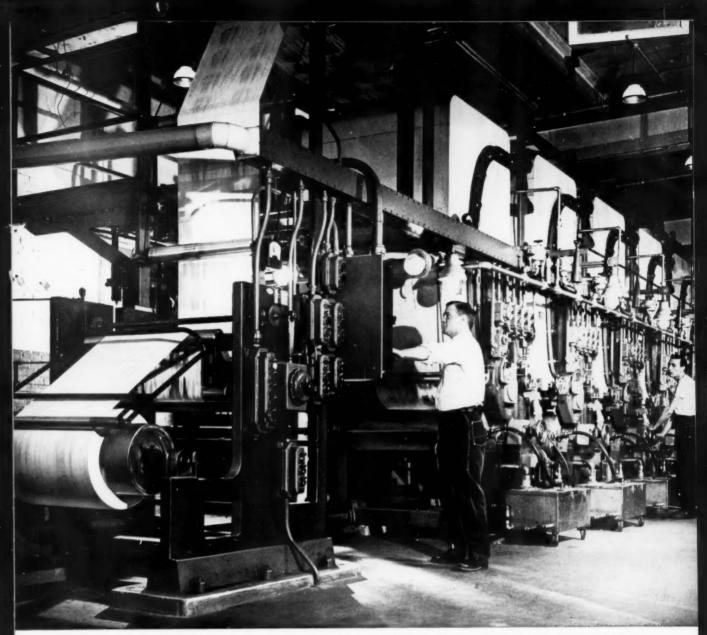
Cleansers for everything including the kitchen sink... all find paper canisters the inexpensive and protective packaging answer. Yet, each and every one differs in its particular package requirements. It is here where Harcord's "small family" organization figures so importantly. For it permits personalized handling of every packaging problem... greater production flexibility... greater customer satisfaction.



The new "copper-look" label on Copper Clad Cleaner is the perfect salesman for this quality miracle cleanser. And the carefully engineered paper canister behind it is a vote of confidence for Harcord's five year service record with Copper Clad.



Promotion with a successful past and promising future is Permatex Cooling System Cleanser and Radiator Rust Preventor. A functional partitioned canister produced by Harcord has helped make this "twin" merchandising package a top seller.



Complete Accessibility of the Kidder gravure press is one of many advancements that make it easier for your operators to deliver the top-quality results you want.

Kidder gravure has earned its leadership

Large Converter Writes: "I am especially pleased with the wonderful workmanship . . . You are to be highly complimented on an exceptionally fine job of engineering . . . This press has everything our pressmen have been asking for."

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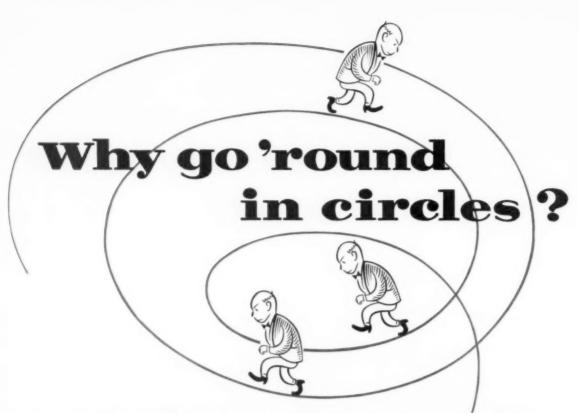
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A new ampul inspector

Mechanical device rotates ampul or vial over beam of light for visual check.

By V. H. WALLINGFORD and FRANK L. MACKEY, JR.*

Although the work described in this article has direct reference to pharmaceuticals, the principles of this device for close visual inspection of bottled liquids are applicable to a wide range of different products. matic; the removal by hand of the inspected ampul causes the ampul being rotated to roll into the inspection position. The operator feeds ampuls to the machine with the left hand and after inspection removes them with the right hand.

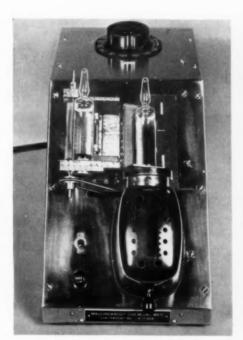
As is shown in an accompanying

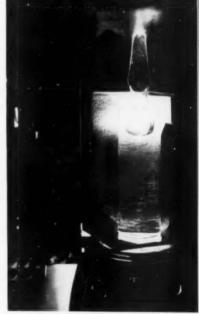
photograph (Fig. 1), the ampul in the inspection position rests on a tilting platform. The weight of the ampul holds two ball-bearing rollers in a raised position to retain another ampul against the rotating rubber roller. When the right-hand ampul is removed, the other ampul is automati-

At the Salt Lake City meeting of the American Pharmaceutical Assn., held in August, 1953, one of the authors described briefly a machine he had devised for aiding in the inspection of filled ampuls and vials. Numerous inquiries from pharmaceutical manufacturers faced with this problem prompted this more complete description of the apparatus.

Operation

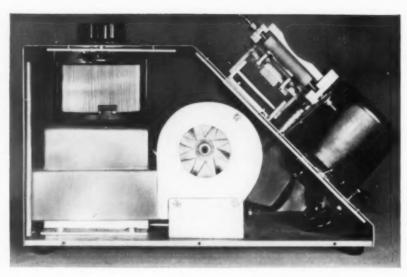
When an ampul is placed on the machine, it comes in contact with a rubber roller (% in. diameter, 600 r.p.m.) which causes the ampul and its contents to rotate. It is then transferred to an inspection position where a beam of light projects up through the bottom of the ampul. In this position the motion of the ampul is arrested, but the contents continue to whirl for a few seconds, permitting easy observation of any suspended particles. The action is semi-auto-





1, 2. FRONT VIEW (left) of inspection device, showing one ampul at the right in inspection position on tilting platform and another ready to roll into position. A strong beam of light is projected through the ampul from below while it is mechanically rotated. Inspector's view (illustration at right) of the swirling liquid as rotation of the ampul stops.

On The authors are with the Mallinckrodt Chemical Works, St. Louis, Mo. The article is based on a paper originally delivered before the 1954 annual meeting of the Parenteral Drug Assn.

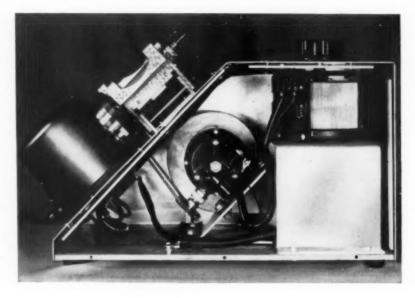


3, 4. SIDE VIEWS of the inspection device with sides of case removed, showing driving motor and variable transformer for controlling light intensity. Small blower attached to extended shaft of motor cools lamp.

cally released and rolls into the inspection position above the lamp. Other photographs (Figs. 3 and 4) were taken with the sides of the case removed showing the driving motor and the variable transformer for controlling the light intensity. A small blower attached to an extended shaft of the motor cools the lamp by continuously drawing air through the lamp housing and discharging at the rear.

For the inspection of vials, a different carriage is used. One replaceable tilting platform is available for 25-ml. vials and another for 50-ml. vials (Fig. 5). No attempt has been made to adapt the machine for the inspection of ampuls smaller than 25 ml., but such modifications in the machine seem possible.

The machine permits inspection of about six hundred 25-ml. ampuls per hour. The 25-ml. and 50-ml. bottles can be inspected at the rate of 500 per hour. Inspection by means of the machine is not particularly fatiguing. The normal interruptions for changing trays, recording information, etc., provide sufficient diversion for operators to inspect practically continuously. It is essential, however, to provide a correctly adjusted posture chair and the area should be somewhat darkened to avoid spurious reflections. The regulation of light intensity is largely a matter of individual preference. A shield is used to prevent the inspection beam from being reflected off any surface or object into the eyes of the operator. For this purpose we place a mat black card above the carriage of the machine



perpendicular to the beam of light from the lamp.

Fig. 2 was taken with no illumination other than that coming from the machine. It shows the field of view of the operator when inspecting ampuls. The photographic technique was not sufficiently refined to record suspended particles in the ampul, but it does illustrate the background and type of illumination which contribute to the efficiency of the apparatus. Direct rays from the lamp do not reach the eyes of the operator. It will be noted that the area behind the liquid in the ampuls is dark. Suspended fibres or specks reflect the strong light projected up through the bottom of the ampuls and become easily visible against the dark background. Detection of suspended particles is facilitated by the fact that the liquid in the ampul rotates or swirls around for the few seconds required for inspection. During this rotation a foreign particle at times assumes a position most favorable for the reflection of light and therefore becomes easily detectable. Glass flakes produce a noticeable glint or flash of light as they become oriented in such a way as to reflect light into the eyes of the operator.

Some light is reflected from the neck of the ampul, but this is not a serious interference. Operators learn to ignore such spurious light and prefer to operate without any shield over that part of the ampul. The meniscus at the top of the liquid in the ampuls

also is a source of unwanted reflected light and obscures a portion of the ampul contents. This effect is more noticeable with bottles which are larger in diameter than the ampuls. However, the movement of the liquid contents of the ampul soon brings into view any suspended particles temporarily obscured by the meniscus.

Air bubbles are also an undesirable interference. To avoid or minimize the formation of air bubbles, the carriage and tilting platform should be balanced and adjusted so as to transfer the ampuls as gently as possible to the inspection position. After some experience, operators have no difficulty distinguishing between small air bubbles and suspended particles.

Comparisons

The results obtained by the use of the machine were compared with results by "hand" inspection employing the set-up recommended in U.S.P. XIII. Nine batches of 25-ml. ampuls totaling 18,800 were first inspected by machine and the rejected ampuls were re-inspected using the U.S.P method. The results are given in Table I. If fibres are present, the operator normally notices it immediately. If no fibres are detected, rejection may still result from the presence of small nonfibrous foreign matter which we call "black speeks." The rejects containing fibres, as listed in the table, may also have contained "black specks," but it is unlikely that the ampuls rejected because of "black specks" contained any fibres.

Of the total of 1,169 ampuls rejected by machine inspection be-

TABLE I—COMPARISON OF MACHINE AND HAND INSPECTION
(Total of 18,800 25-ml. ampuls inspected)

| | Ampuls reject | , , | Ampuls rejected f | |
|------------|---------------|-----------------------|-------------------|--------------------------|
| Lot No. | By machine | Re-inspection by hand | By machine | Re-inspection by hand |
| A | 130 | 107 | 171 | 80 |
| D | 174 | 163 | 219 | 130 |
| G | 112 | 91 | 152 | 55 |
| H | 202 | 168 | 236 | 103 |
| J | 120 | 105 | 214 | 80 |
| M | 88 | 83 | 204 | 62 |
| N | 86 | 75 | 210 | 86 |
| P | 141 | 131 | 202 | 58 |
| R | 116 | 109 | 197 | 80 |
| Totals | 1,169 | 1,032 | 1,805 | 734 |

cause of fibres, 137 or 12% were missed entirely on re-inspection by hand. Similarly, hand inspection failed to detect 1,071 or 59% of the 1,805 ampuls found by machine to contain black specks. The rejected ampuls containing fibres or black specks not detectable by the U.S.P. XIII method were re-inspected by the use of the machine. There was no difficulty in observing again the suspended material that had caused the original rejection.

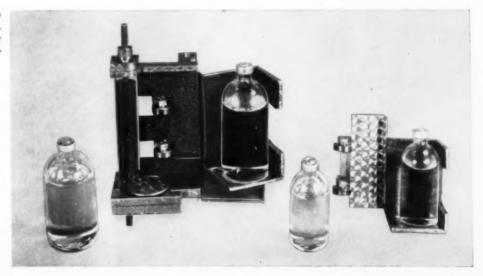
This shows that less efficient results were obtained with the U.S.P. method in spite of the fact that more time was devoted to the inspection than is customary and the operator had reason to believe that each ampul contained sufficient suspended material to justify rejection.

Three years of experience have demonstrated repeatedly that the machine is of great assistance in detecting suspended particles, especially smaller particles not readily observed under the conditions of the U.S.P. method. It should be added that glass flakes or fragments, when present, are easily seen with the type of illumination that is provided by the machine.

This inspection device is not commercially available. One of these machines was constructed recently in our shops by skilled machinists who, however, had no previous experience with the machine. Materials cost \$100 and 171 hrs. of labor were required. It is estimated that another machine could be made with 150 hrs. of labor. Although the inspection device is the subject of a United States patent (No. 2,677,304), the Mallinckrodt Chemical Works will grant, on request, royaltyfree licenses to pharmaceutical manufacturers to make the device for their own use.

Complete working drawings for the machine also are available.

5. AUXILIARY carriages for handling of 25-ml, and 50-ml, vials. Other sizes of vials can be similarly accommodated.



Ventilation of produce

Onions are typical of items requiring effective perforation of film bags to vent moisture. By R. E. HARDENBURG*

Three-, four- and five-pound film bags for pre-packaging onions are coming into wide use. Popularity of film bags is stimulated by the trend toward completely self-service retail produce departments and advantages offered by an inexpensive transparent package that allows inspection of con-

Some of the more popular transparent bags for onions are made of highly moistureproof polyethylene and Pliofilm. Such bags used without ventilation maintain a relative humidity approaching 100% around the onions. As high humidity is undesirable for keeping onions in good condition, some form of package ventilation is necessary. This need is emphasized by high temperatures in retail stores. Onions keep best when stored at 32 to 40 deg. F. with a comparatively low relative humidity of 70 to 75% (4, 5).† Of course, onions are packaged

Horticulturist, Biological Sciences Branch, Agricultural Marketing Service, U. S. Dept. of Agriculture, Beltsville, Md. † Numbers in parentheses identify References appended.

for marketing, not for storage. But as the marketing period may vary from only a few days to two or three weeks, an understanding of possible complications when film-packaged onions are inadequately ventilated is necessary. Housewives may keep bagged onions at room temperatures for a week or more after purchase.

Kaufman, Hruschka and Hardenburg (2), in reporting the results of their onion pre-packaging tests, stated that onions keep better in mesh bags and in kraft bags with mesh windows than in other kinds of bags tested. Ventilated polyethylene and Pliofilm bags were also satisfactory in most of their tests; they reduced weight loss below that in mesh or kraft bags with mesh windows and allowed greater visibility. Kaufman and others concluded from their holding and shipping tests that polyethylene and Pliofilm bags of 3-lb. capacity should be perforated with at least 16 %-in. holes and they believed 32 holes to be preferable (Fig. 1). These perforations allowed the escape of excess water vapor and thus lowered the relative humidity within packages. Kaufman and others found that the onions became damp and musty and developed roots in film bags without perfora-

In 1953 packaging tests were conducted at Beltsville, Md., to test further the necessity for ventilating film bags for onions and to compare types and numbers of perforations for maintaining quality during marketing. Keeping quality of newly harvested onions was compared with that of another lot held in cold storage for several months before being pre-pack-

Experimental methods

Early Yellow Globe onions in 50-lb. mesh bags were obtained on the Washington, D. C., wholesale market, These had been shipped to market by truck. Test I, during April, 1953, was with old onions that had been held in cold storage at Elba, N.Y., for nearly six months. Test II, during September, 1953, was with newly harvested wellcured onions in excellent condition. also from Elba, N.Y. These two lots were selected because it was believed they might give a wide range in keeping quality after packaging.

All sprouted, decayed or damaged onions were removed before packaging. The 11 different types of bags or bag perforations tested were as fol-

- 1. Polyethylene 150 with no perforations.
- 2. Polyethylene 150 with 30 to 36 116-in. V-shaped flaps,
- 3. Polyethylene 150 with 80 to 90 his-in. V-shaped flaps.
- 4. Polyethylene 200 with 40 %-in. U-shaped flaps.
- 5. Polyethylene 150 with 8 %-in.
- 6. Polyethylene 150 with 16 %-in.
- 7. Polyethylene 150 with 32 %-in. holes.

1. APPROVED perforation of film bags of 3-lb. capacity for prepackaging onions: left, polyethylene gusset-type bag with thirty-two 14-in. holes; right, Pliofilm pouch with sixteen 1/2-in, holes.

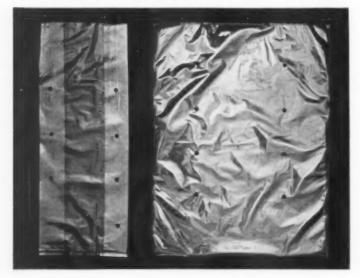


TABLE I—EFFECT OF AMOUNT OF VENTILATION IN 3-LB. BAGS ON THE KEEPING QUALITY OF OLD AND NEWLY HARVESTED PRE-PACKAGED YELLOW GLOBE ONIONS HELD SEVEN DAYS AT 75 DEG. F. ON SIMULATED RETAIL DISPLAY

(All values are averages of four packages)

| Age of onions and | Bag per | forations | Weight loss | | Onions sprouted | | | Appearance or condition |
|-------------------------|---------|----------------------------|----------------|------|--------------------|-----|------|---|
| type of bag | Number | Type | (%) | (%) | (%) | (%) | (%) | ** |
| Old onions from storage | | | | | | | | |
| (Test I-April, 1953) | | | | | | | | |
| Polyethylene | () | | 0.1 | 64.7 | 3.3 | 0.0 | 12.7 | Poor, extensive surface mold |
| Polyethylene | 30-36 | 1 ₁₆ -in. flaps | 0.2 | 18.0 | 1.8 | 0.0 | 19.3 | Fair, extensive surface mold |
| Polyethylene | 80-90 | 116-in. flaps | 0.4 | 19.7 | 1.3 | 0.0 | 20.3 | Fair, extensive surface mold |
| Polyethylene | 40 | %-in. flaps | 0.5 | 22.9 | 5.4 | 0.0 | 20.4 | Fair, extensive surface mold |
| Polyethylene | 8 | S-in, holes | 1.0 | 8.0 | 4.8 | 0.0 | 20.4 | Fair to good, slight surface mold |
| Polyethylene | 16 | 5-in, holes | 1.5 | 6.4 | 8.1 | 4.4 | 21.0 | Good |
| Polyethylene | 32 | %-in. holes | 1.5 | 0.0 | 5.0 | 2.3 | 21.0 | Good |
| Polyethylene | 32 | %-in. holes | 1.0 | 0.0 | 1.4 | 0.0 | 21.0 | Good |
| Pliofilm FF | 16 | 4-in, holes | 1.2 | 0.0 | 1.1 | 3.2 | 20.8 | Good |
| Pliofilm HM | 16 | 4-in. holes | 1.5 | 0.0 | 8.9 | 3.0 | 21.0 | Good |
| Kraft, with window | 0 | - | 1.7 | 0.0 | 5.5 | 1.3 | 21.0 | Good |
| Newly harvested onions | | | | | | | | |
| (Test II-Sept., 1953) | | | | | | | | |
| Polyethylene | 0 | - | 0.3 | 0.0 | 0.0 | 7.0 | 16.2 | Fair to poor, extensive surface mold, damp |
| Polyethylene | 30-36 | 116-in. flaps | 0.4 | 0.0 | 0.0 | 2.8 | 20.8 | Good, slight surface mold |
| Polyethylene | 80-90 | 116-in. flaps | 0.5 | 0.0 | 0.0 | 2.9 | 21.0 | Good, slight surface mold |
| Polyethylene | 40 | %-in, flaps | 0.5 | 0.0 | 0.0 | 5.6 | 21.0 | Good, slight surface mold |
| Polyethylene | 8 | 4-in. holes | 0.7 | 0.0 | 0.0 | 4.2 | 21.0 | Good, slight surface mold |
| Polyethylene | 16 | 5-in. holes | 0.6 | 0.0 | 0.0 | 1.4 | 21.0 | Good, slight surface mold |
| Polyethylene | 32 | %-in, holes | 0.7 | 0.0 | 0.0 | 1.4 | 21.0 | Very good, dry and bright |
| Polyethylene | 32 | %-in. holes | 0.6 | 0.0 | 0.0 | 0.0 | 21.0 | Very good, dry and bright |
| Pliofilm FF | 16 | 4-in. holes | 0.6 | 0.0 | 0.0 | 0.0 | 21.0 | Very good, dry and bright |
| Pliofilm HM | 16 | 4-in. holes | 0.6 | 0.0 | 0.0 | 1.4 | 21.0 | Very good, dry and bright |
| Kraft, with window | 0 | | 0.8 | 0.0 | 0.0 | 0.0 | 21.0 | Very good, dry and bright |

8. Polyethylene 150 with 32 %-in. holes.

9, Pliofilm 120FF with 16 ¼-in, holes.

10, Pliofilm 120HM with 16 ¼-in. holes.

11. Wet-strength kraft (40 lb.) with a 2½-by-4-in. Lumarith P912-100 window.

Perforations were evenly spaced along the gusseted sides of the bags and below the point of closure so that all could function. Twelve bags of each of these types were filled with 18 onions, about 3 lbs. per bag.

All the bags except the kraft bags, which were folded at the top and stapled, were closed with wire "Twistems." Some of the bags were held in kraft shipping bags to simulate handling during shipment and in wholesale establishments, but others were arranged in a single layer on shelves to simulate display in a retail store. The multiwall wet-strength kraft shipping bags were perforated with 24 ½-in. holes.

Four bags of each type were examined after three different storage or holding periods. The holding peri-

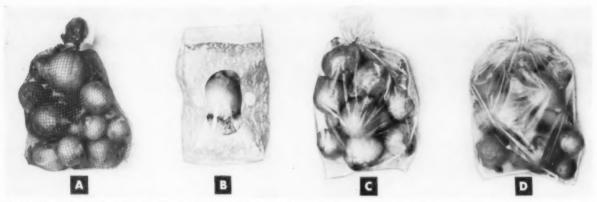
ods were (1) seven days at 75 deg. F., 2) seven days at 75 deg. F. in a kraft shipping bag followed by seven days at 75 deg. F. after removal of the consumer units and (3) 10 days at 40 deg. F. in a kraft shipping bag followed by seven day at 75 deg. F. after removal of the consumer units. Holding the consumer-size bags for seven days at 75 deg. F. following removal from the shipping bags was intended to simulate a rather severe shelf-life period in retail stores. It might also be considered as simulating a shelf-life period of three to four days in a store and three to four days in a housewife's

Relative humidity in the 75-deg, room was 45 to 55% and in the 40-deg, room 80 to 85%. Within six of the types of bags relative humidity was recorded in Test I by inserting American Instrument Co. electric hygrometer elements and making readings twice daily during a nine-day period. Concentration of O₂ in the enclosed atmosphere was determined with a Beckman oxygen analyzer.

After weighing, the bags were opened and the numbers of rooted, sprouted and decayed onions were recorded. An onion was considered rooted if it had roots more than %-in. long and in the discussion rooting was classified as extensive if more than 25% of the onions had roots that long. Onions were considered sprouted if sprouts more than %-in. long were present. Onions that showed any decay were considered decayed. Surface mold that occurred was recorded separately from decay.

Results and discussion

Weight losses. Weight losses were higher in the bags that provided the most ventilation, as shown in Tables I to III. Losses in weight of both storage and newly harvested onions were less than 2% in all types of bags held seven days at 75 deg. F. (Table I). When pre-packaged onions were held 10 days at 40 deg. F. in kraft shipping bags and then spread out, as in a retail display, for an additional seven days at 75 deg. F., weight losses still did not exceed 3.2% (Table III). In the tests with both types of onions, weight losses in film bags with 16 or 32 %-in. holes were usually less than



2. TYPES OF BAGS for pre-packaging onions: A, open mesh; B, kraft paper with film window; C, Pliofilm; D, polyethylene.

in kraft bags with Lumarith windows, but the difference was never greater than 1.5 percentage points. Polyethylene bags nonperforated or perforated with many small U- or V-shaped flaps had lower weight losses than bags perforated with eight or more %-in. holes. But lower weight loss was no advantage because the keeping quality of the onions was poorer. Rooting and surface mold were more extensive in these bags with low weight loss, as shown in Tables I to III.

Weight losses were higher and shriveling was more of a problem with old onions from cold storage than with newly harvested well-cured onions.

Relative humidity and rooting. The effect of different types and numbers of perforations on the relative humidity in polyethylene bags of storage onions (Test I) is shown in Table IV. The humidity in nonperforated film bags averaged 98%. Bags with flaptype perforations maintained average humidity of 84 to 88%. In kraft win-

dow bags and in polyethylene bags with 16 or 32 %-in. holes the humidity averaged 51 to 54%, approximating that in the room.

Growth of roots on old onions was directly related to humidities in the bags. Rooting on old onions (kept about six months in cold storage before packaging) in polyethylene and Pliofilm bags was an important cause of deterioration (see Fig. 3). Rooting was very extensive on old onions in nonperforated polyethylene bags

TABLE II—EFFECT OF AMOUNT OF VENTILATION IN 3-LB. BAGS ON THE KEEPING QUALITY OF OLD AND NEWLY HARVESTED PRE-PACKAGED YELLOW GLOBE ONIONS STORED SEVEN DAYS AT 75 DEG. F. IN KRAFT SHIPPING BAGS AND THEN HELD SEVEN DAYS AT 75 DEG. F. ON SIMULATED RETAIL DISPLAY (All values are averages of four packages)

| Age of onions and | Bag per | forations | Weight loss | | Onions sprouted | | | Appearance or condition |
|-------------------------|---------|----------------|----------------|------|--------------------|------|------|-------------------------------------|
| type of bag | Number | Type | (%) | (%) | (%) | (%) | (%) | ** |
| Old onions from storage | | | | | | | | |
| (Test I-April, 1953) | | | | | | | | |
| Polyethylene | 0 | ***** | 0.5 | 70.5 | 12.0 | 8.3 | 15.5 | Poor, extensive surface mold |
| Polyethylene | 30-36 | 1/16-in. flaps | 0.7 | 59.2 | 11.7 | 10.2 | 20.0 | Poor, extensive surface mold |
| Polyethylene | 80-90 | 1/16-in. flaps | 1.2 | 47.0 | 27.9 | 9.9 | 20.5 | Poor, extensive surface mold |
| Polyethylene | 40 | %-in. flaps | 1.4 | 40.0 | 24.1 | 10.7 | 20.4 | Poor, extensive surface mold |
| Polyethylene | 8 | ¼-in. holes | 1.8 | 24.4 | 14.8 | 4.6 | 21.0 | Fair, slight surface mold |
| Polyethylene | 16 | %-in. holes | 2.5 | 16.9 | 15.2 | 12.7 | 21.0 | Fair |
| Polyethylene | 32 | 4-in. holes | 2.5 | 3.6 | 14.2 | 5.6 | 21.0 | Fair |
| Polyethylene | 32 | %-in. holes | 2.1 | 22.1 | 13.2 | 3.2 | 21.0 | Fair |
| Pliofilm FF | 16 | 4-in. holes | 2.0 | 11.9 | 16.4 | 7.6 | 21.0 | Fair |
| Pliofilm HM | 16 | 4-in. holes | 2.8 | 4.0 | 23.8 | 6.9 | 21.0 | Fair to poor |
| Kraft, with window | 0 | | 3.4 | 0.0 | 13.0 | 8.8 | 21.0 | Fair to good, slight shriveling |
| Newly harvested onions | | | | | | | | |
| (Test II—Sept., 1953) | | | | | ~ ~ | | | |
| Polyethylene | 0 | | 0.6 | 0.0 | 0.0 | 13.9 | 17.4 | Poor, extensive surface mold, dam |
| Polyethylene | 30-36 | 1/16-in. flaps | 0.6 | 0.0 | 0.0 | 4.2 | 20.3 | Poor, extensive surface mold, dam |
| Polyethylene | 80-90 | 1/16-in. flaps | 0.9 | 0.0 | 0.0 | 5.6 | 21.0 | Fair to poor, extensive surface mol |
| Polyethylene | 40 | %-in. flaps | 0.9 | 0.0 | 0.0 | 13.9 | 21.0 | Poor, extensive surface mold, dam |
| Polyethylene | 8 | %-in. holes | 1.0 | 0.0 | 0.0 | 0.0 | 21.0 | Good, slight surface mold |
| Polyethylene | 16 | %-in, holes | 1.2 | 0.0 | 0.0 | 2.7 | 21.0 | Good, slight surface mold |
| Polyethylene | 32 | %-in. holes | 1.2 | 0.0 | 0.0 | 1.4 | 21.0 | Good |
| Polyethylene | 32 | %-in, holes | 1.2 | 0.0 | 0.0 | 2.7 | 21.0 | Good |
| Pliofilm FF | 16 | 4-in. holes | 1.2 | 0.0 | 0.0 | 1.4 | 21.0 | Good |
| Pliofilm HM | 16 | 4-in. holes | 1.1 | 0.0 | 0.0 | 0.0 | 21.0 | Good, slight surface mold |
| Kraft, with window | 0 | | 1.9 | 0.0 | 0.0 | 2.7 | 21.0 | Good to fair |

(Test I, Tables I to III). In polyethylene bags perforated with many small V- or U-shaped flaps also high percentages of the onions were rooted. This type of perforation did not allow water vapor to escape satisfactorily. As a consequence, the relative humidity increased in these packages and stimulated rooting. When film bags were perforated with as many as 16 or 32 %-in. holes, humidity did not build up to high levels and rooting was greatly reduced-and in some cases prevented. In kraft window bags rooting of old onions was negligible.

Rooting of newly harvested onions packaged in film bags was not a problem, even when the bags were nonperforated and held as long as 10 days at 40 deg. F. followed by seven more days at 75 deg. (Test II, Tables I to III). Apparently the onions were in a dormant condition so that high humidity did not stimulate root growth.

Rooting of old onions may be a serious problem even in film bags perforated with 16 or 32 %-in. holes if the consumer units are held in kraft shipping bags for as long as seven days at 75 deg. F. or 10 days at 40 deg. Shipping bags, even though perforated themselves, block many of the perforations in the consumer bags and thus prevent escape of water vapor. Close contact of the consumer bags while in shipping bags also blocks some of the perforations. When the 3-lb, bags were removed from the shipping bags after 10 days' storage at 40 deg. F. in Test I, there was some rooting in all film bags. It was least in kraft bags, most extensive in nonperforated polyethylene bags. During the following seven days of simulated display at 75 deg. F., roots tended to dry up in bags with 16 or 32 1/4-in. holes and averaged about 1/3 in. in length at the end of that period. On the contrary, roots on onions in nonperforated polyethylene or in polyethylene perforated with tiny Vor U-shaped flaps continued to grow and were 1 to 2 in. long when the bags were opened (Table III).

Bags with the least ventilation and the most extensive rooting of onions also had the heaviest fogging or condensation of moisture on the inside. Condensation in film bags was objectionable for onions, for dry and bright scales which "rustle" on handling have long been a characteristic of good-quality onions.

Thirty-two %-in. holes in polyethylene bags were not as effective as 32

4-in. holes for preventing rooting of old onions held in shipping bags for a period during marketing. If the smaller perforations are preferred, twice as many should be used.

Sprouting. Sprouting was not influenced by type of bag or by type or amount of bag ventilation (Tables I to III). Apparently it was mainly associated with age of onions and length and temperature of storage. Because the newly harvested onions were dormant, none sprouted in any of the bags. Of the older onions removed from cold storage for pre-packaging, 1.1 to 8.9% were sprouted after seven days at 75 deg. F. When they were held seven days at 75 deg. F. in shipping bags and seven days more on simulated display, sprouting ranged from 11.7 to 27.9% and marketability was reduced, and when they were held 10 days at 40 deg. F. in shipping bags followed by seven days on simulated display at 75 deg. F., sprouting in different bags ranged from 6.1 to

Problems of sprouting and rooting in onions may become minor. Wittwer (6) reported that they can be largely eliminated by spraying onion fields with maleic hydrazide 10 to 20 days before harvest.

Decay and surface mold. Extent of decay was not consistently associated with type or amount of bag ventilation in Test I with old onions. Decaved onions ranged from none to 4.4% after seven days at 75 deg. F., but when held seven days at 75 deg. F. in a shipping bag followed by seven days on simulated display, 3.2 to 12.7% of them were decayed (Tables I and II). Newly harvested onions showed a definite trend toward more decay in polyethylene bags which were nonperforated or perforated only with numerous 1/16- or 1/6-in. flaps. Most of the decay was black mold rot, caused by Aspergillus niger, but some gray mold and bacterial soft rots were pres-

Considerable surface mold developed in several of the types of bags. This is not listed under decay because mold growth was superficial and the fungus did not rot the tissues unless there was a mechanical injury where it could enter. Surface mold was considered objectionable because of its effect on appearance. The surface mold was caused by the black mold rot fungus and the blue mold fungus.

Surface mold was extensive on onions in polyethylene bags nonperforated or perforated with many diecut flaps. In addition, the onions in these bags were often damp and unattractive rather than dry and bright. Surface mold was also present to a slight extent after seven days at 75 deg. F. in polyethylene bags with eight 4-in, holes and in some bags with 16 %-in. holes, indicating that even these amounts of ventilation were not always adequate to prevent surface mold entirely (Tables I to III). Surface mold became more extensive during longer holding periods when consumer units were packed in master shipping bags.

Package O: content. Ventilation of most packages for fruits and vegetables is essential to prevent depletion of O2 which is needed in respiration and to prevent accumulation of CO2 and water vapor to harmful levels. The amount of ventilation needed depends on the permeability of a film to these gases, on the respiration rate of the produce item and on the expected temperatures during marketing. Onions have a low respiration rate similar to that of white potatoes. Consequently, their requirements for O1 are relatively low.

Normal air contains approximately 21% O2. In these tests the average O: concentration was never below 10%

> 3. GROWTH OF ROOTS on stored onions was directly related to humidities in the bags. Inadequately perforated film bag of the type shown at top was responsible for typical rooting of onions as illustrated below.



TABLE III—EFFECT OF AMOUNT OF VENTILATION IN 3-LB. BAGS ON THE KEEPING QUALITY OF OLD AND NEWLY HARVESTED PRE-PACKAGED YELLOW GLOBE ONIONS WHEN STORED 10 DAYS AT 40 DEG. F. IN KRAFT SHIPPING BAGS AND THEN HELD SEVEN DAYS AT 75 DEG. F. ON SIMULATED RETAIL DISPLAY

| (All | values | are | averages | of | four | packages) | 9 |
|------|--------|-----|----------|----|------|-----------|---|
|------|--------|-----|----------|----|------|-----------|---|

| Age of onions and type of bag | | forations | loss | rooted | Onions sprouted | decayed | in bag | Appearance or condition |
|---|--------|----------------------------|------|--------|--------------------|---------|--------|---|
| type of bag | Number | Type | (%) | (%) | (%) | (%) | (%) | |
| Old onions from storage (Test I—April, 1953) | | | | | | | | |
| Polyethylene | 0 | - | 0.3 | 100.0 | 18.7 | 8.2 | 10.0 | Very poor, extensive surface mold damp |
| Polyethylene | 30-36 | V ₁₆ -in. flaps | 0.5 | 98.2 | 17.8 | 2.5 | 19.8 | Very poor, extensive surface mold damp |
| Polyethylene | 80-90 | V_{16} -in. flaps | 0.8 | 88.4 | 14.5 | 5.9 | 20.7 | Very poor, extensive surface mold |
| Polyethylene | 40 | %-in. flaps | 0.9 | 91.7 | 16.4 | 9.9 | 20.6 | Very poor, extensive surface mold |
| Polyethylene | 8 | %-in. holes | 2.3 | 71.3 | 18.4 | 4.6 | 21.0 | Poor, slight surface mold |
| Polyethylene | 16 | 4-in. holes | 2.6 | 64.7 | 13.6 | 8.3 | 21.0 | Poor, slight surface mold |
| Polyethylene | 32 | 4-in. holes | 2.6 | 18.4 | 6.1 | 3.3 | 21.0 | Fair |
| Polyethylene | 32 | %-in, holes | 2.3 | 57.0 | 9.5 | 9.4 | 21.0 | Poor, slight surface mold |
| Pliofilm FF | 16 | %-in, holes | 2.5 | 34.5 | 12.4 | 4.7 | 21.0 | Fair to poor |
| Pliofilm HM | 16 | %-in, holes | 3.2 | 26.7 | 16.5 | 7.1 | 21.0 | Fair to poor |
| Kraft, with window | 0 | - | 3.1 | 2.6 | 14.0 | 8.6 | 21.0 | Poor to good |
| Newly harvested onions (Test II—Sept., 1953) | | | | | | | | |
| Polyethylene | 0 | - | 0.4 | 0.0 | 0.0 | 8.3 | 14.8 | Very poor, extensive surface mole damp |
| Polyethylene | 30-36 | 1/16-in. flaps | 0.4 | 0.0 | 0.0 | 2.8 | 20.0 | Poor, extensive surface mold, damp |
| Polyethylene | 80-90 | 1/16-in. flaps | 0.7 | 0.0 | 0.0 | 0.0 | 20.5 | Fair, slight surface mold |
| Polyethylene | 40 | 1/s-in. flaps | 0.7 | 0.0 | 0.0 | 5.6 | 20.8 | Fair to poor, extensive surface mole |
| Polyethylene | 8 | 4-in, holes | 0.8 | 0.0 | 0.0 | 1.4 | 21.0 | Good |
| Polyethylene | 16 | 14-in, holes | 0.9 | 0.0 | 0.0 | 0.0 | 21.0 | Good |
| Polyethylene | 32 | 14-in, holes | 1.0 | 0.0 | 0.0 | 0.0 | 21.0 | Good |
| Polyethylene | 32 | %-in, holes | 0.9 | 0.0 | 0.0 | 0.0 | 21.0 | Good |
| Pliofilm FF | 16 | 4-in, holes | 1.0 | 0.0 | 0.0 | 1.4 | 21.0 | Good |
| Pliofilm HM | 16 | %-in, holes | 1.0 | 0.0 | 0.0 | 1.4 | 21.0 | Good |
| Kraft, with windov | v 0 | | 2.3 | 0.0 | 0.0 | 1.4 | 21.0 | Fair |

even in nonperforated polyethylene bags during the longest holding period (Table III). Concentrations of O_2 as low as 10% were not harmful. There were no off-odors indicative of suboxidation.

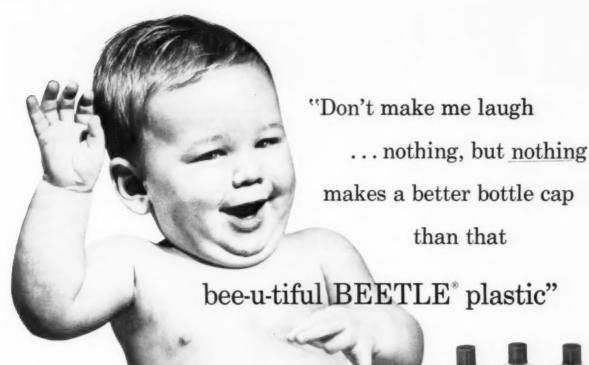
All the perforated film bags and the nonperforated kraft bags allowed approximately normal O2 concentrations to be maintained around the onions. It is known from previous tests on prepackaging many types of produce that just two %-in, or four %-in, holes in small film packages will let adequate Oz enter for normal respiration (1, 3). Flap-type perforations in transparent films also are satisfactory for permitting entrance of O2. But maintaining O2 supply is only part of the ventilation problem with onions. As previously discussed, large numbers of cut-out holes are needed to allow excess water vapor to escape.

Summary and conclusions

Old onions from cold storage and newly harvested onions were compared as to keeping quality when prepackaged in 3-lb.-capacity kraft window, polyethylene and Pliofilm HM and FF bags. Polyethylene bags nonperforated and with different numbers and types of perforations were tested. More deterioration was encountered when old onions were prepackaged than when newly harvested onions were used. Weight losses and losses from rooting and sprouting were higher with the old onions. Onions kept in good to fair condition in kraft bags with Lumarith windows during simulated marketing periods of seven and 14 days at 75 deg. F., although weight losses were slightly higher than in perforated film bags. When adequately perforated for ventilation, polyethylene or Pliofilm bags were also satisfactory for onions. The present tests substantiate the conclusion of Kaufman and others (2) (This article continued on page 199)

TABLE IV—EFFECT OF AMOUNT AND TYPE OF PACKAGE VENTILATION ON THE AVERAGE RELATIVE HUMIDITY WITHIN 3-LB. BAGS OF ONIONS DURING NINE DAYS' STORAGE AT 75 DEG. F. AND 45 TO 55% RELATIVE HUMIDITY (TEST I)

| Type of | Bag p | Relative humidity | |
|--------------------|--------|----------------------|-----|
| bag | Number | Type | (%) |
| Polyethylene | 0 | | 98 |
| Polyethylene | 30-36 | 1/16-in. flaps | 88 |
| Polyethylene | 40 | 1/8-in. flaps | 84 |
| Polyethylene | 16 | 1/4-in. holes | 54 |
| Polyethylene | 32 | 14-in. holes | 51 |
| Kraft, with window | 0 | 4000 | 54 |





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Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Overcoming film-bag failures

QUESTION: One of our products is packed in a polyethylene film bag. The product is free flowing and rather dense, and the total weight is 2 lbs. From time to time we have had failures due to splitting of the film or opening of the bag seams. However, the failures appear to run in cycles. Sometimes the failure or breakage is in the film; at other times it is in the bag construction. How can we test bags and write a specification to prevent this breakage?

ANSWER: The answer to the testing and standards for both plastic films and bags made from films is given in the article "Shock Tests for Plastic Films," which appeared in the Aug., 1954, issue of Modern Packacing, page 119. This article describes a test procedure for the evaluation of both the film and the bags under controlled conditions and with a load that approximates your product. In this case, sand could be used because it is dense and flowable, but your product would probably work equally well.

The use of this test procedure, done under carefully controlled conditions, would give you a reliable index for use in writing specifications for both the film and the bags.

However, it is suggested that you make tests and develop specifications in cooperation with both the film maker and the bag maker. Such cooperation will allow you to develop realistic standards of performance and also will enable your suppliers to meet these standards as quickly as possible.

Volume shrinkage in glass jar

QUESTION: We pack a special-purpose paste in a glass far fitted with a screw cap and a waxed liner. We notice that there is volume shrinkage of our product after it has been displayed for some time. Since the caps appear firmly in place, we do not know the cause of this shrinkage or how to stop it. Can you advise us how to overcome this problem?

ANSWER: The volume shrinkage of your product is due to moisture loss after extended time of storage. The moisture in the form of a vapor is absorbed into the liner through the wax and then is lost along the edge of the liner outside of the glass finish. This migration and loss can occur even though the cap is firmly screwed down. The amount of the moisture loss is dependent upon the type of cap liner and the time and temperature of the storage conditions.

It is quite apparent that the waxed cap liner of the type you are now using is not sufficiently moisture proof for your storage conditions.

It is suggested that you try several

CORRECTION

An author's correction in the table "Acceptability of Various Chemical Ingredients of Plastic Food-Packaging Materials," which appeared in connection with the article "F&DA Acceptance Criteria," by Drs. A. J. Lehman and W. I. Patterson, in our January issue, removes tributyl acetyl citrate from the group of unevaluated chemicals and makes the statement as to tributyl acetyl citrate that "Comprehensive pharmacological studies demonstrate the safety of this plasticizer." Readers who have filed this article for reference are advised to make this correction in Table I, under "Plasticizers." Those who have received reprints or tear sheets will automatically receive corrected copies of the table. A limited number of corrected copies of the table is available to others on request.

different types of plastic-coated or film liners, as well as those made of aluminum foil. These should be tested in your laboratory for both moisture loss and corrosive effects of the product and the liner. A few tests of this type should give you liners that will reduce moisture loss in storage to such low values that there will be no noticeable shrinkage of your product.

Overcoming sifting through carton

QUESTION: We are using a folding carton and a cellophane overwrap for one of our new products. This product is a finely ground dark powder that carries a low oil content. We have had occasional complaints from our dealers that some shipments contained many packages in which the powder had sifted out of the carton and was held under the cellophane wrapper. This condition can make the package unsalable and always make it unattractive. How can we redesign our package or seal to eliminate sifting?

ANSWER: A great many ideas have been tried and much design work has been done to find a folding carton that can be made completely siftproof in large-scale productions. It is possible to make a folding carton of several designs that, when carefully set up and glued, will hold most powdered products. However, in your case the problem is made more difficult because even a small amount of sifting or dust from the filling operation is retained by the cellophane wrapper.

Your carton supplier can help you obtain the best type of construction and also to adjust your carton gluer and flap-closing machine and other equipment for the best possible seal.

However, another answer would be to use a formed and sealed carton liner. This construction would add to costs, but it would entirely eliminate any possibility of sifting and could also be used for more moistureproofness or greaseproofness if desired.

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Equipment and materials

NEW PLASTIC-LINED CROWNS

announced by the Bond Crown & Cork Div. of Continental Can Co., 100 E. 42 St., New York 17, are of interest to the beer and carbonated-beverage industries. The new lining consists primarily of a mixture of vinyl resins, inert fillers and



a plasticizer. It can be molded and cured in conventional crown shells made from tinplate and is adaptable to high-speed production lines, according to the company. Continental worked for several years with the Dewey & Almy Chemical Co. in developing the vinyl compound and

new patented equipment is utilized in making the plastic-lined crowns. The new liner fulfills three objectives, the company says, in the development of a crown closure with a synthetic liner: (1) to have a liner compound of materials available in this country, (2) to have a liner of known properties so that variations would be reduced and (3) to make a crown closure with better and more-uniform performance characteristics than cork-lined crowns.

A NEW ALL-PURPOSE BOXBOARD

is now available from Columbia Box Board Mills, Chatham, N. Y. Known as Krafibre, the board is available in white lined, colors and natural. According to the manufacturer, Krafibre makes boxes of great strength and tear resistance, comparable to those of virgin kraft but costing much less.

A NEW SEALER FOR POLYETHYLENE TUBES

of the Bracon type has been introduced by Carbert Mfg. Co., Waltham, Mass. The Bank-Seal has been designed to handle tubes from % to 2% in. in diameter, when automatic filling and



sealing are not required. Using the gang principle, the new machine is said to be the only one of its kind that can seal several tubes at once, Rated production capacity for the machine is from 10 to 30 units per minute, depending on tube diameter. Tubes are loaded by hand into cylindrical receptacles on a rack, sent through a filling station, then fed into the sealer. The sealing operator pushes a

handle, which clamps tubes in jams and trips an air valve. The jaws then lift the tubes out of the rack and into the heating elements for automatic heating, activating and sealing.

Carbert has also announced the development of a semiautomatic bottom-sealing machine for Bracon-type cylindrical bottles which closely resembles the tube sealer.

A NEW POLYETHYLENE BAG MAKER

known as the Model PO 2R, anounced by the Roto Bag Machine Corp., 130 E. 13 St., New York, is said to offer a new method of tube forming and center-seam sealing. Higher production output and greatly reduced maintenance and waste factors are claimed by the company for this new machine. In operation, air streams are used to support the film and seals are made with a fixed sealing element which requires no protective coating. A quick-splicing mechanism is included in the mill-roll stand.

A COMPACT, VERSATILE PRE-PACKAGING MACHINE

announced by the new Alaska Juneau Enterprises Packaging Div. of the Alaska Juneau Gold Mining Co., 1018 23 Ave., Oakland 6, Calif., is reported to handle various-sized com-



modities, wet and dry, weighed or bulk produce, as well as toys, fruits, vegetables, candies, bakery goods and other products. The box-shaped machine is small, measuring 24 in. wide, 32 in. long, 42 in. high, and weighs only 280 lbs. Up to 45 bags or more a minute are filled automatically, it is reported. The open, horizontal hopper is mounted in front of the machine on a moving element which, when set in motion, picks a bag from the magazine, tilts the hopper and

load into the bag, places the loaded bag on a conveyor and returns to position for the next loading. The hopper may be readily replaced by another one best adapted to the product being processed and to the bag size it may require, without further change in the main body of the machine. The unit, called the M-W automatic bagger, is electrically driven and may be plugged into a light circuit.

A NEW, COMPACTLY DESIGNED FILLING MACHINE



developed by the F. L. Burt Co., 571 Seventh St., San Francisco, is designed to handle both liquids and semisolids.

The compact machine, in use by Elena's Food Specialties of San Francisco for filling several varieties of Mexican foods from tamales to refried beans, is reported to fill from 15 to 30 bot-

tles, jars or cans per minute and to be adjustable to handle containers ranging in size from 1 to 32 oz.

A NEW BAGGER FOR FREE-FLOWING MATERIALS

has been put on the market by Union Bag & Paper Corp., 233 Broadway, New York 7, acting as sales agents for Inglett & Corley equipment. Known as Model UB-101, it automatically delivers pre-weighed material through a bag chute into open mouth multiwall bags moving on a conveyor belt, which then

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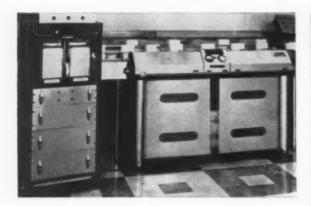
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Equipment and materials

takes them through a sewing head. A new double-faced, dialtype scale and new switch system are said to be improvements over the original machine (Model UB-100).

A RETAIL SCALE THAT BOTH WEIGHS AND PRINTS

price tickets for pre-packaged meats, introduced by Toledo Scale Co., Toledo, Ohio, is said to be the first machine with which the pre-packager can weigh, compute values and then





imprint price, value name of commodity and date, thus eliminating all reading of weights by the operator. The weight recording and printing operations are completely automatic. The machine prints on each label a reproduction of the weight gradations on the scale and a small arrow indicating the weight of the particular item (above). Thus, the company says, chance of parallel errors in reading is eliminated.

The weight-printing mechanism is part of Toledo's Valueprint system, in which it is combined with roll label holder, commodity plate rack and a commodity name imprinter known as the Serv-A-Label. This is designed to eliminate keeping stocks of pre-printed labels, by substituting a file of printing plates from which the proper one may be selected to imprint the name of the commodity as labels for that item are needed.

STURDY NEW CARRIER CARTONS

announced by the Pizor Container Corp., 23 & Carpenter Sts., Philadelphia, Pa., reportedly eliminate the need for corrugated shipping cartons. These inexpensive corrugated or solid-fibre



kraftboard carriers accommodate either flattop or cone-shaped cans and are constructed with a carry handle that lies flat for easy stacking. Co-operating with Pizor Container Corp., a manufacturer of pack-

aging and gluing machines has designed a machine which puts cans in carriers and seals them automatically at a rate of more than 600 cans per minute. The new carriers are also available in all-kraft, moisture-resistant board for frozen-food cans.

A NEW LINE OF PLASTIC VIALS

has been added to the prescriptionware containers made by the Brockway Glass Co., Inc., Brockway, Pa. The vials are available in 3-, 5-, 7-, 9-, 13- and 15-dram sizes and come packed in convenient dispensing cartons. These Temper-Plas vials are light in weight, strong and resistant to breakage and splitting, according to the supplier. Either inner or outer labels may

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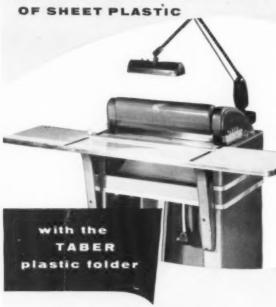
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feature gives MORE right-angle creases in LESS time and fewer rejects. Handles .005" to .020" thickness cellulose acetate up to 30" wide. Designed to handle 2 blades if desired.

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| Please send me literature on Taber PLASTIC FOLDER NAME | ☐ Taber | PLASTIC | CREASER |
| COMPANY | | | |
| ADDRESS | | | |
| CITY | | | |
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Equipment and materials

be used and they come with white snap-on plastic caps that are said to offer more positive moisture protection.

A HIGH-SPEED LABEL IMPRINTER

has been announced by A. Kimball Co., 307 W. Broadway, New York 13, Called the Roto Kimco, it is designed to print labels

and tags of any description automatically at rates up to 150 per minute. Imprinting is done from metal logos or sticky-back rubber mats in type from six to 36 point, with type changes said to be possible in a matter of sec-



onds. Tags and labels are used in fanfold form and may range in size from 1 by % in, up to 6% by 4% in, with a cut-off knife severing each printed label and dropping it into a hopper.

NEW HIGH-DENSITY OPAQUE POUCH PAPERS

have been introduced by The Hamersley Mfg. Co., Garfield, N. J., which are said to have extra strength and a very high finish suitable for color printing or for coating. The papers are primarily designed for food packaging, but special barrier grades are available for protective packaging.

POLYETHYLENE CONTAINERS WITH LIDS



aid to be spillproof have been introduced by Plastomatic Corp., Malvern. Pa. Available in stock sizes from 6 to 64 oz. in a variety of colors, the round Seal-Tainers feature a valve-like grip between lid and container which is said to make them spillproof for all products and leakproof for many. Accidental loosening of the lid can

never occur, claims the manufacturer, yet it can be removed by a simple peeling process. The molded polyethylene containers and lids are nonrigid and can be labeled or imprinted by offset. They are said to weigh 1/6 as much as glass.

A NEW HIGH-GLOSS WRAPPING FOR BREAD



has been announced by Marathon Corp., Menasha, Wis. Called "Super Tyton," it uses a new coating formula that is applied to opaque sheet and is said to maintain a "soft" touch even after wrapping hot bread and going through in-plant and in-store handling. According to the manufacturer, the new wrap has high machine workability, a flexibility that follows loaf contours, no cracking, breaking or coating build-up and it affords good color reproduction.

THREE NEW MODEL CODING MACHINES

that can be attached to any type conveyor system for coding and printing wraps and containers have been introduced by the American Marking Corp., 77 Lock St., Newark 1, N. J. The new Micro-Coders Nos. 20, 22 and 23 are friction driven by contact with articles. They have three rollers and two micrometer-scale dials control their adjustment so that all rotate

ANNOUNCING

PRINTABLE QUALITY CELANESE POLYETHYLENE

Celanese method of treatment produces excellent ink-holding surface gives long-wearing roto and flexographic impressions.



More profits with Celanese Even Gauge Polyethylene Here's why...

Even Gauge means more bags per pound . . . uniformity without weak spots . . . easier and faster machine handling . . . better tracking through bag machine . . . more bags per hour!

Celanese Polyethylene—outstanding for even gauge and easy machine handling—is now obtainable in printable quality. The new method of surface treatment employed provides dependable ink retention qualities, while maintaining the important film characteristics of toughness, tear strength and heat sealability.

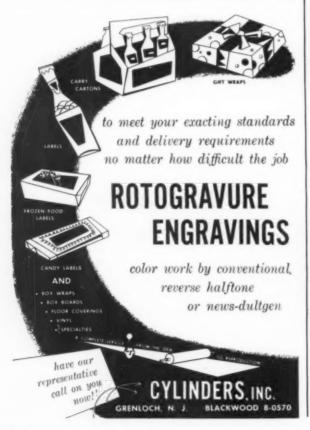
We believe that this new film offers an improved solution to many current packaging problems. Converters and bag makers are invited to send immediately for samples to make test runs. Celanese Corporation of America, Plastics Division, Dept. 108-C, 290 Ferry Street, Newark 5, N. J. Canadian affiliate, Canadian Chemical Company, Ltd., Montreal and Toronto.



Reg. U.S. Pat. Off.

PLASTICS





Equipment and materials

together. A double-spring arrangement makes it possible to mark objects from any direction without changing springs.

SMALL AEROSOL CONTAINERS

with a cosmetic appearance have been introduced by the Sunex Division of Sun Tube Corp., Hillside, N. J. The new con-



tainers, which hold up to 2% oz., reportedly can be lithographed in up to three colors on a base coat or may be gold lacquered with silk-screen imprint. The impact-extruded, seamless, aluminum container may be either pressure or refrigeration filled. It has satin-finished shoulders, a non-corrosive nylon valve and a protective dome of either polystyrene or polyethylene in a variety of colors.

AN AUTOMATIC TUBE LABELER

for gluing ganged labels to tubes up to 32 in. in length, to be cut to form cans, has been announced by Kenneth J. Moore & Co., 1778 W. Estes Ave., Chicago 26. Known as the Gluemaster, the new labeler reportedly handles tubes ranging from % to 6 in. in diameter at speeds up to 50 tubes per minute. It is especially constructed to handle small, light-weight tubes.

A NEW POSTER PRODUCTION TECHNIQUE

that puts artwork from frozen-food overwraps to double use has been originated by Western Waxed Paper Division of Crown Zellerbach Corp. The idea was initiated as a nonprofit

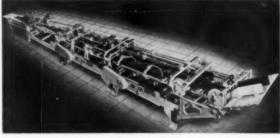


venture for the paper company in answer to requests from customers for assistance in merchandising and actually is being developed by Point-of-Sale Displays, Inc., P.O. Box 35, San Leandro, Calif. The posters, produced from the original product vignette from the carton wrap, measure 9% in. high by 12% in. wide.

They are recommended for in-store, window and truck display use to create maximum brand identification because of the exact similarity between the two pieces.

A STRAIGHT-LINE INFOLD BOX GLUER

called the "Master" model, introduced by the E. G. Staude Mfg. Co., Inc., St. Paul 14, Minn., is reported to simplify carton set-up operations. Hitherto "extra" attachments, now built into



the unit, are said to make it adaptable for all types of conventional boxes, including the Beers and Brightwood cartons. The gluer handles a large variety of narrow-bottom cover blanks, specialties, as well as the Himes or crash-bottom blanks. The new front section, which handles double- and triple-fold cartons, also can be used for dewaxing. A special timed bot-



Clearly, the cases are Kodapak Sheet... tough, durable, crystal-clear, color-true, free from waves and ripples. Customers see the product clearly, buy without handling!

Clearly, the cases are Kodapak Sheet... uniform in composition and gauge, with good dimensional and chemical stability. It draws without "blush," is processed in

high-production machinery. Packaging costs are kept in line!

Give you ideas for your product line? Then call our representative, or write for full information—literature, names of firms using Kodapak Sheet or handling it.

Cellulose Products Division, Eastman Kodak Company, Rochester 4, N.Y.

*Name upon request

Kodapak Sheet MAKES GOOD MERCHANDISE SELL BETTER!

Sales offices: New York, Chicago, Atlanta. Sales representatives: Cleveland, Philadelphia, Providence. Distributors: San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales Ltd.).

DOOM

FOREVER YOUR COSTLY LABEL INVENTORY CONTROL with ROTO KIMCO Automatic Labeling System



Imprint labels, tags and tickets, as you need them, when you need them – speedily – 2 per second. Eliminating expensive and wasteful preprinted label inventories.

ROTO KIMCO Codes and price marks Box-end Labels, Bag Tops, Pre-pak Labels gummed, ungummed, Heat-Seal, Pressure-Sensitive—also all types of Tags and Tickets. Supplied in FAN-FOLD for economy of storing and speed in handling.

ROTO KIMCO Prints over 120 sizes of printing areas, from 1" x %" up to 6%" x 43%". Prints price logos, rubber mats, or type in 6 pt. to giant 36 pt. Imprints, cuts off, and stacks for speed in production.

ROTO KIMCO Eliminates all types of costly rubber stamp marking, and hand marking.



WRITE for complete details



Equipment and materials

tom feed can be attached to speed up production of hard-tofeed and laminated boards.

A NEW ADJUSTABLE STAND

has been announced by the Mercury Heat Sealing Equipment Co., 2601 N. Howard St., Philadelphia 33, for its Vacumatic label sealer and other heat-sealing machines. The Vacumatic



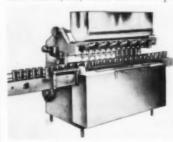
machine (for folding and heat sealing a label over the top of a bag in one operation) can now be easily integrated into any production line simply by rolling the cabinet into position. The new adjustable-height table (see illustration) is available either separately for use with any machine or completely mounted with the Vacumatic seeler.

A new low-priced polyethylene sealer, the Poly-Sealer Model MPE-12, has also been

announced by the Mercury Heat Sealing Equipment Co. The sealer, mounted on a self-contained metal table, is operated by foot pedal. It is available with 12-, 16- or 24-in. sealing jaws.

SPEEDY, MORE ACCURATE FILLING

is claimed for the new straight-line, heavily constructed machine developed by the Filler Machine Co., Inc., Philmont Club Station, Pa., which fills semi-liquid and semi-solid products

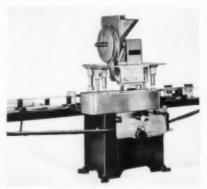


into as many as 300 glass, plastic or metal containers a minute. New air-operated valves cut off instantaneously regardless of cycle speed. This new Model SL-55 can be constructed to handle from ½- to 32-oz. containers and fills jellies, preserves.

salad dressing, cheese, cosmetics, pharmaceuticals, petroleum and chemical products. It is available in 4-, 6-, 8-, 10- and 12-line fillers.

A NEW AUTOMATIC INNERSEALER

produced by the Resina Automatic Machinery Co., 572 Smith St., Brooklyn 31, is used to select and apply innerseals to F-style or other types of cans, where the seal is used before a



screw cap is applied. The machine (see illustration) has its own conveyor can-timing device and will apply seals at speeds of from 60 to 120 pints or quarts per minute. Also announced Resina is a new can sealer used to select, apply and ream friction lids Daragon) | has proved it for almost a quarter century!



You can rely on

Tri-Sure

Closures to prevent

- **✓ LEAKAGE**
- **✓** SEEPAGE
- **✓ PILFERAGE**
- **✓ LOSSES**

BACK IN 1932, the Paragon Oil Company started to use Tri-Sure* Closures to protect the quality of its products in transit. Since then, all of Paragon's fine line of motor oils, gasolines, solvents, lubricants and fuels—including the famous Paralene 100% Pennsylvania Motor Oil—have been shipped in Tri-Sure equipped drums.

Here are 23 years of *proof*—by a company with the most exacting standards of processing, packaging and marketing—that the *dependable* way to protect quality products is in drums safeguarded by Tri-Sure Closures.

Just as it pays to build quality into your products, it will pay you to give them *quality protection*: the Tri-Sure *Flange*, *Plug* and *Seal*. Safeguard your shipments from losses—guard every gallon from leakage, tampering and undetected pilferage—by specifying "Tri-Sure Closures".

AMERICAN FLANGE & MANUFACTURING CO. INC. 30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y. Tri-Sure Products Limited, St. Catharines, Ontario, Canada



*The "Tri-Sure" Trademark is a mark of reliability backed by over 30 years serving industry. It tells your customers that genuine Tri-Sure Flanges (inserted with genuine Tri-Sure Dies), Plugs and Seals have been used.

PLASTIC MOLDED BOXES

at lower than most other box prices!

STOCK BOXES

There are hundreds of stock

plastic boxes to choose from.

Standard and novelty boxes

that do a smart merchan-

dising job and add eye-

appeal for any product . . .

plus a reusable container

which will result in in-

CUSTOM MADE BOXES

If mold costs have pre-

vented you from using a

tailor-made box, here is a

new opportunity for you.

Harmon engineers will design a plastic molded box

to meet your specific re-

quirements without mold

charges. Just send us a

sample of your product with

price limitations and quanti-

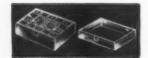
ties used annually; we will

create a package and make

full recommendations with-

out obligation to you.

creased sales for you.



752D Gold Sprayed Cover 71/2 x47/2 x2 binged

75MK Plain, no design on cover; also clear tinsel or solid



Dragon Box
(also Stallion De
sign) 5'4 x 4x 3
Crystal, solid o
two color; als
without dragon o
cover. Hinged an
snap closure.

1% diam. ½" high, clear or solid color.





Scotty & Teddy 4x14x1, white and pink, 3 colors sprayed, hinged, snap closure, Available only as a pair.



Clear, tutone or solid colors, hinged, snap closure, available in following sizes

| 2W-11/4 sq. x 1/2 | 300-278 x2x12 | 52-11ax3 ax'2 |
|-------------------|------------------|----------------------|
| 3W-11, sq. x 34 | 350-2% x2x1 | 53-45 x35 x1 |
| 4W-11/4 sq. x 1 | 360-27/8 x2x3/16 | 54-4%x3%x11/2 |
| 205-2' x1 1x' | 370-278 x2x5/16 | 72-51/2 x21/4 x 1/8 |
| 963-2", x1 % x % | 380-2% x2x 1/4 | 73-51/2 x21/4 x15/16 |
| 486-2'4x1'4x1 | | 74-512 x214 x114 |
| | | |

Write or call for brochure or send your product for sample.

The Harmon Company

331 Madison Avenue,

New York 17, N. Y. MUrray Hill 7-7644

Equipment and materials

as used in vegetable- and olive-oil cans at rates of 60 gal. per minute. This unit is also equipped with a can-timing device, plus automatic stop controls. Both machines are fully automatic, continuous-motion, straight-line type.

A HIGH-SPEED, HEAVY-DUTY FILLING MACHINE

has been introduced by the Hope Machine Co., 9400 State Rd., Philadelphia 14, Pa. Designated the "Type 41 Super Duty," it is built in 6-, 8- and 10-line sizes to meet the current trend



to higher speeds up to 250 per minute in viscous product filling. It features adjustable filling-head height, micrometer-type quantity adjustment. adjustable rising table lift. variable speed and ball-bearing units on all shafts. An optional feature is a double turnover container cleaner which air blasts and vacuums, and is built integrally with the machine.

A NEW LINE OF SHELL VIALS

designed and priced for mass packaging has been announced by Kimble Glass Co., a subsidiary of Owens-Illinois Glass Co., Toledo 1, Ohio. The transparent Opticlear flint-glass shell vials come in eight sizes: 1-, 2-, 3-, 4-, 5-, 7-, 10- and 12-dram capacity and are capped with a specially designed polyethylene stopper for easy opening and resealing.

A CONE-TOP GALLON CAN FOR FOUNTAIN SYRUPS

is being offered by Continental Can Co., 100 E. 42 St., New York 17. Made throughout of #50 electrolytic tinplate, the new round can is lacquered inside and on the top and bottom of the outside. It is side-seam striped, with the inside wax lined. A 1½-in. nozzle in the cone top is flanged to take a double-seamed, scored closure cap. A second cap for reclosure is also provided. The manufacturer will furnish cans with lithographed bodies or will apply paper labels supplied by the customer.



HAND-OPERATED FILLING MACHINES

have been added to the line of liquid fillers being offered by the Packer Machinery Corp., 30 Irving Pl., New York 3. The new line includes one-, two- and three-spout hand units for gravity and vacuum filling of containers up to 1-gal. size.

A NEW ELECTRONIC INTERVAL TIMER

added to the Decitrol electronic counter line of the Electronic Products Div., Post Machinery Co., Beverly 11, Mass., is the Post I.T. In this device, normal 60-cycle current is converted to 120 cycles a second and each impulse is registered. Timed





CHICAGO 10, ILLINOIS

TEST for QUALITY CONTROL with CADY THICKNESS MICROMETERS



CADY Hand Micrometer

has die cast aluminum frame, shaped to fit hand; convenient trigger raises and lowers anvil; capacity is thickness up to ½"; horizontal glass covered 3" diam. dial graduated 1/1000ths of an inch. For use throughout the plant or when traveling. Extremely accurate; direct reading; no computing. Spherical end anvils available on order, \$65.00, F.O.B. Chicago, Illinois.

For calipering thicknesses of Papers, Boards, Folls, Felt, Glass, Metals, Plastics, Rubber; Sheet stock or Finished Products with thicknesses to one-half inch.

CADY Standard Gauge

Registers thickness to 5/16"; available with 4, 7, 12 or 18" throats. Horizontal, glass covered dial is 6" diameter; graduations 1/1000ths or .005 meh.

CADY

Dead Weight Anvil descends by gravity for extremely uniform pressure and completely accurate calipering. 6" diameter glass covered dial with 1/1000ths or .005 graduations.



Standard Model: \$110.00; Dead Weight Model: \$126.50, F 0 B. Chicago, Illinois

Write for data and prices: Burst Strength Testers, Basis Weight Scales. E. J. CADY & COMPANY, 642 N. Harlem Ave., River Forest, Ill.

LIQUID FILLING REQUIREMENT



Model B-2 Vacuum Filler

provides efficient continuous production, filling two containers at a time. Handles a wide variety of liquids and semi-liquids. Has automatic product supply; vacuum is adjustable and flow regulated for accurate, clean filling. Fills a wide range of containers up to 4½° dia. round or rectangular. Send for Bulletin B-2.

and profit by more than two generations of liquid filling experience. The U.S. line covers a wide range of liquid filling machines for automatic, semi-automatic and hand-filling operations. With this wide choice of Fillers, you need not compromise your production to fit a machine; instead, basic U.S. machines are customengineered to fit your specific production . . . and usually at a saving.



The U.S. Siphon Filler

is a highly efficient machine. Stainless steel filling tubes and glass lined tank. Handles all types liquids; all containers. Fills without overflow or spillage. Send for Siphon Bulletin.

Model B-49 Straightline Vacuum Filler

for liquids and semi-liquids. Most automatic oneoperator multiple filler. Operates with or without discharge conveyor. Filling proceeds automatically while empties are loaded. Easy operating lever activates container feed and discharge; otherwise operation is completely automatic. Adjustable for container sizes from AGST to gallon size finishes. A dependable machine where filling cost is a factor. For full details, send for Bulletin B-49.

U. S. BOTTLERS MACHINERY COMPANY

Specialists in Liquid Filling and Container Cleaning Equipment 4017 North Rockwell Street • Chicago 18, Illinois

BOSTON • NEW YORE • PHILADELPHIA • HOUSTON • DALLAS LOS ANGELES • SAN FRANCISCO • DENVER • SEATTLE • PORTLAND PHOENIX • NEW ORLEANS • TAMPA • ATLANTA • MONTREAL TORONTO • VANCOUVER • WINNIPEG • EXPORT OFFICE: TOLEDO

Equipment and materials

operations, in seconds, are automatically controlled. Single, dual, triple or quadruple timing models are available.

PACKAGES OF EXPANDABLE POLYSTYRENE

which are shock resistant are now available, announces Ambassador Plastics & Mfg. Corp., 620 N. Michigan Ave., Chicago 11, using polystyrene by Koppers Co., Pittsburgh. The pack-



ages, made in two mating halves, are molded with an accurately shaped internal cavity in which delicate instruments, drugs, cosmetics or other products may be securely held. For shipment, the two halves may be taped together. An effective seal between the two sec-

tions of the package is said to be obtained by the use of matching beads and grooves which fit closely together when the halves are joined. The expandable plastic packages are extremely light in weight; the sample shown weighs only 5 oz.

PRICE CUTS IN POLYETHYLENE FILM

have been announced by two manufacturers. Reductions by the Durethene Corp., 1859 S. 55 Ave., Chicago 50, range from 4 to 10%, depending upon the type of film. Visqueen film by The Visking Corp., Plastics Div., Terre Haute, Ind., has been reduced from 3½ to 12 cents per pound.

CELLOPHANE-LINED FROZEN FOOD CARTONS

designed for hot-filled or semi-liquid items have been announced by Kliklok Corp., 405 Lexington Ave., New York. The new carton has dual corner locks which combine a top edge "stripper"



lock and safety engaging slits on each corner. These, says Kliklok, will prevent lock failures which sometimes occur with hot-packed foods such as spinach, chicken a la king, cooked squash and the like. A second new feature is said to be a controlled gusset fold in

the cellophane liner at each corner of the carton, aimed at preventing product leakage. This fold reportedly stays flush against the carton wall and does not interfere with filling.

TWO PRESSURE-SENSITIVE FILM TAPES

have been introduced by Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul, Minn. Only 2 mils thick but said to possess unusual strength, they are designed for industrial mark-



ing, labeling and decorating uses. Known as "Scotch" brand polyester film tapes Nos. 850 and 852, they each have a metallic appearance and polyester-film backing. No. 852 is printable and supplied with a polyethylene-coated paper liner. The tapes are claimed to have excellent resistance to acids, alkalies and most common solvents, and to be able to

stand extremes of temperature. Other properties includes, says the manufacturer, 25 lb. tensile strength and 40 oz. of adhesion per inch of tape width and 100% elongation. Standard widths run from ½ to 23 in. on 72-yd. rolls.





Using Cardboard Now?

Remember, Seal-Tainers give up to 100% area visibility to your products, not just a window. There's no breakage or spoilage of containers. Contents spilled during filling are readily wiped clear. And filling-line economies can offset the slight extra cost.



Using Glass Now?

Seal-Tainers are unbreakable, flexible, "see-through" containers at about one-sixth the weight of glass. Lower shipping costs and no breakage can more than offset the penny-a-package increase.



Using Styrene Now?

Why not save the cost of breakage? Non-rigid Seal-Tainer — the clearest molded polyethylene container on the market — gives excellent visibility to your product's color and texture. Seal-Tainers can be produced in all colors, and are easily labeled or printed. Hold frozen or warm foods and all kinds of materials, including "difficult" packs.

Here is Polyethylene that's Self-Sealing— Unbreakable—Transparent—Spill-Proof

At slightly more than the cost of styrene, Seal-Tainer by Plastomatic brings you all the salescompelling bonus extras of a plastic package . . . in the lowest-cost container in the unbreakable plastic field! Yes, for just pennies more than cardboard . . . about a penny more than glass . . . you can put your product into this eye-appealing, buy-appealing showcase of molded polyethylene.



Seal-Tainer, with the positivelocking no-drip lid, gives leakproof protection to most products, spill-proof protection to every product. Valve principle assures bulldog grip between lid and container, yet lid is easily peeled off for quick opening. Re-use features of Seal-Tainer boost impulse sales. create built-in point-of-purchase stimulus.

Seal-Tainers, now available in unlimited quantities, are manufactured in stock sizes from 6 to 64 ounces... special sizes and shapes to customers' specifications. Let a Plastomatic Representative help you solve your packaging problems. Write today for complete details.

Plan to Visit the Plastomatic Booth No. 884 National Packaging Exposition Chicago, April 18 to 21



PLASTOMATIC CORPORATION, MALVERN, PENNA.

Plants and people



Couch

Robert de S. Couch has been elevated to the post of manager of General Foods' Carton & Container Division. Edmund R. Halsey, former manager of the division, has been named director of "operations re-search." Succeeding Mr. Couch as general sales manager of the Carton & Container Division is Edward P. Finch.

The American Colortype Co., Chicago, has appointed H. Addison Campbell to the newly created position of director of advertising and public relations with headquarters in New York.

F. S. Wakeman has been elected president of The Bartgis Bros. Co., Ilchester, Md. Mr. Wakeman succeeds Joseph S. Miller, appointed chairman of the board.

Cochran Foil Co., Louisville, Ky., has completed an expansion of its new Produets Div. plant, which manufactures rigid foil containers.

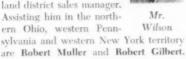
Crown Cork & Seal Co., Inc., Can Div., Philadelphia, has promoted George Congdon to assistant manager of research to head up the customer research department of the company.

B. R. Colkett has been appointed a vice president of Fibreboard Products Inc., San Francisco. J. S. Mitchell has been made secretary and treasurer. Hugh W. Hicks and M. R. Baruh have been appointed assistant general sales managers.

Milprint, Inc., Milwaukee, Wis., has opened a new 40,000-sq.-ft. plant at Downingtown, Pa., which will convert flexible packaging materials and manufacture meat casings and bread wrappers.

Ray Rehpohl has been appointed to Milprint's sales staff.

Dobeckmun Co., Cleveland, Ohio, has promoted Fraser Wilson to the newly created post of sales manager, Polyethylene Products Packaging Division. Fred E. Bell succeeds Mr. Wilson as Cleveland district sales manager.



National Can Corp., Chicago, has purchased the Pacific Can Co. of San Francisco in a \$19 million transaction. The acquisition makes National third in the industry behind American Can and Continental. Robert Solinsky, National president, will be president and chief executive officer. E. F. Euphrat, former president of Pacific, will be chairman of Pacific. Other top Pacific management will remain in their present capacities.

Chase Bag Co., Chicago, has appointed H. E. Dennie manager of its Philadelphia branch, succeeding J. P. Grady, who continues as Eastern regional sales director. E. P. Alexander has been named sales manager in Chicago. D. B. Fendler has been made sales manager in Detroit and J. F. Pouchot has been appointed to the sales promotion department.

The American Can Co., New York, has appointed C. F. Lausten general manager of its manufacturing department, succeeding G. W. Reese, who has been elected vice president, Atlantic Division. H. R. Larsen has been made general



Lausten



Larsen



manager of the general purchasing department. A new products department has been formed under the direction of Roscoe M. Roberts.

Celanese Corp. of America, New York, has appointed Dr. W. P. Moeller manager, market development department, replacing Dr. W. E. Holland, resigned. J. W. Flynn has been made assistant manager of the department. W. G. West has also joined the market development department. R. M. Leiter succeeds Mr. Flynn as director of sales, sheet and molding compounds. D. R. Mahan has joined the sales department to cover central and western Massachusetts from headquarters in Leominster, Mass. William T. Marx has been promoted to the new position of director of personnel administration. R. T. Mann succeeds Mr. Marx as assistant to the director of organization planning.

George W. Ewald and David L. Fox have joined the Development Department of Celanese.

Dr. Myles L. Mace has been elected to the board of directors of Interchemical Corp., New York, succeeding the late Allen L. Billingsley. Werner F. Goepfert has been made personnel manager of the central research laboratories. William L. Scott succeeds Mr. Goepfert as head of the raw materials group,

The Printing Ink Div. of Interchemical has purchased a modern plant with a ten acre site in Cincinnati for conversion to an ink factory. The new plant is scheduled to begin operations by the fall of this year, with production under Edward A. Kalmar, Cincinnati factory manager. Interchemical's Ault & Wiborn Carbon & Ribbon Div. will take over the present plant for the manufacture of carbon papers and typewriter ribbons.

Max Key has been promoted to manager of the plastics production department of The Dow Chemical Co., Midland, Mich. Mr. Key replaces Dr. William H. Schuette, recently made assistant to the general manager of Dow's Midland Division. Dow has opened a field sales office in New Orleans to serve Louisiana, the southern half of Mississippi, southwestern Alabama and northwestern Florida, under the direction of Glenn H. O'Neal. manager of the St. Louis office. The staff at the new office includes Louis O. Litherland, Jr., Richard F. Lee, Albert E. Weil, and John J. Sheppard, Jr.

The Netherlands Government has granted Dow permission to establish a wholly owned subsidiary company, to be known as Nederlandsche Dow Maatschappij, N.V., in Rotterdam. The subsidiary, under the management of John Van Stirum, will import, manufacture and distribute domestically and abroad a variety of chemicals, plastics and mag-



Heinrich Sunderhauf



Mr.

Harald Heinrich has been elected chairman of the board of H. H. Heinrich Co., Inc., New York. distributors of Windmoeller and Hoelscher

bag-making machines and printing presses. Rudolf Sunderhauf succeeds Mr. Heinrich as president and H. P. John has been elected secretary.

Continental Can Co., New York, has purchased the Wallace Container Corp., Santa Ana, Calif. Wallace now will be known as the Vynite Collapsible Tube Meet

Coragated ...

the packaging industry's number one "box" office attraction



PACKAGING THEATRE

HINDE & DAUCH
AUTHORITY ON PACKAGING
SANDUSKY, OHIO

ORCHESTRA

PACKAGING THEATRE

Wertrod · THERMAL IMPULSE Heat Sealers

WILL GIVE YOU PERFECT SEALS ON-

- POLYETHYLENE SARAN
 POLYVINYL ALCOHOL · NYLON · KEL-F · MYLAR
- Seals all thermoplastics thru: Wrinkles Gussets Liquids Powders
- Manual Foot Pedal models up to 42" |
- Automatic Air Cylinder models up to 42
- **Electronically controlled seals**
- Eliminates burned film

We Are Proud to Announce that We Are Now Operating From Our Modern, New Plant -Designed to Serve You More Efficiently!



MODEL 9A FOOT PEDAL OPERATED MODEL

Bench Model-Chassis 9" wide Produces seals up to 8" Operates from 115 volts AC line-350 watts Shipping Weight 15 lbs.

Send for Descriptive Literature

Manufactures under 2,460,460 2,574,095 2,633,443 one or more of the 2,479,439 2,621,704 2,646,105 following patents: 2,574,094 2,630,396 2,650,183

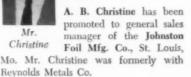


Plants and people

Div. and be part of Continental's Bond Crown & Cork Division. Wallace H. Shapero, former president of Wallace Container, will be general manager of the new division.

Bird & Son, Inc., East Walpole, Mass., has established the New Britain Box Div. with headquarters at New Britain, Conn. Arthur J. Bushell has been appointed

manager of sales and manufacturing and Marshall B. Lee is now sales engineer. Chester H. Porter continues as plant superintendent.



L. C. Krauthoff has resigned as executive vice president of H. D. Catty Corp., New York. Mr. Krauthoff will remain on the board and act as company legal adviser.

Jones & Laughlin Steel Corp., Pittsburgh, Pa., has opened a new warehouse and container division plant at Lancaster, Pa., to serve customers in eastern Pennsylvania, Delaware, Maryland and West Virginia. The container division plant is manufacturing 5-gallon and 3%-gallon steel shipping pails. Salesmen appointed



to work out of the new warehouse are: Carl R. Wittlinger, Jr., for the Lancaster area; William H. Williamson, the Harrisburg area; Charles E. Rice, Jr., the York area; and Thomas W. McClure, Jr., the Hagerstown, Md., area.

C. C. Smith has been made plant merchandiser for the Buffalo plant of Bemis Bro. Bag Co., St. Louis, Mo., and D. G. Chase, sales manager for the Buffalo Sales Division. J. T. Trotter has been named sales manager of the Bemis multiwall paper bag plant at East Pepperell, Mass., succeeding R. B. LeRoy, who has been given new responsibilities.

Hudson Pulp & Paper Corp., New York, has elected Jacob Mazer as chairman of the board; William Mazer, president; Irwin A. Zuckerman, vice president in charge of the consumer products division; and Raymond S. Hatch, vice president in charge of research.

Sealright Co., Inc., Fulton, N. Y., has appointed V. J. Silliman as district manager of its Great Lakes-Ohio River district. Mr. Silliman succeeds Charles E. Thompson, recently appointed Eastern Div. sales manager. Both men will headquarter in Cleveland.

Bronze memorial plaques of the late Eugene W. Skinner, co-founder and for-

mer president of Sealright, have been placed in Sealright factories in Fulton, Kansas City and Los An-

Charles F. Pfeifer has been named president and general manager of the Visible Package & Paper Corp., New York. Mr. Pfeifer was formerly sales manager of the Film Div.



of Olin Mathieson Chemical Corp.

The Glass & Closure Div., Armstrong Cork Co., Lancaster, Pa., has assigned the following salesmen: D. P. Kenney, Atlanta; L. A. Steiner, Jr., Baltimore; J. R. Bigler and D. D. Brackett, Chicago; E. L. Bumgarner, Cincinnati; R. H. Chandler, Cleveland; and R. L. Cunniff, New York. H. Allen Legge, Jr., has been transferred to Philadelphia and Thomas F. Bull to the plant personnel and labor relations department at Lancaster.

The Inta-Roto Machine Co., Richmond, Va., has signed a contract with the Erwin Kampf Maschinenbau of Bielstein near Cologne, Germany, to produce GM-1000 laminating and coloring machines for the European market and sterling area countries. Inta-Roto also will be exclusive distributor in the United States for foil and film slitters made by the Erwin Kampf Maschinenbau organization.

American Type Founders, Elizabeth, N. J., is consolidating all engineering and manufacturing operations at its main plant in Elizabeth and vacating its plant in Mt. Vernon, N. Y. Sales and service of all products will be directed by R. A. Tobias, vice president. Douglas Murray will continue as sales manager of the Web Press Division.

William T. Ingram has been appointed to the newly created position of general sales manager, regional sales, of Reynolds Metals Co., Louisville, Ky. Succeed-



BIGGEST SELLING products on the self-service shelves today use the sunshiny, eye-stopping brilliance of Olin Cellophane to catch the fleeting shopper's eye.

In the highly-competitive food field Sunshine Chocolate Crunch Cookies enjoy a variety of important advantages by using printed Olin Cellophane. Among them: long economical runs on highspeed packaging equipment, bright trueto-life color printing by the converter, moistureproofness to protect the oven freshness of cookies.

Give your product the powerful sales advantage of a modern package wrapped in Olin Cellophane or Polyethylene. An Olin Film packaging consultant will be glad to call on you with a fresh approach to packaging that may change the course of your business. Olin Film Division, 655 Madison Avenue, New York.

a packaging decision can change the course of a business



Holds, Opens, Fills All Types Of Bags! Handles Polyethylene & Other Materials

— Packages 1001 Products!

Put YOUR packaging operation on a stoppage-free, high efficiency, low-cost basis! Call or write today for a prompt personal demonstration. A sample bag and precise product dimensions will help determine the proper model for your product.

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G packaging corporation
1170 BROADWAY, NEW YORK 1, N. Y. . MU 6-4539



Plants and people

ing Mr. Ingram as general manager of the Pacific Coast sales region is William O. Yates.

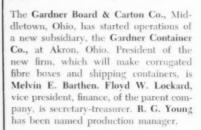
The firm of Nowland & Schladermundt, New York, has changed the name of its Product and Marketing Planning Div., with Roger L. Nowland and Karl H. Tietjen as principal officers, to Nowland & Co., Inc., Greenwich, Conn. The Design and Product Research Div. of the firm, with Peter Schladermundt and Charles L. Metzler as partners, will be known as Peter Schladermundt Associates, New York 17.

William S. Stephens has joined the materials handling department of Syntron Co., Homer City, Pa., as an application engineer. Henry L. Wolfe has joined the sales staff of Syntron Baltimore Sales Co.

Mr. Wolfe will locate in Richmond, Va. Henry A. Fleer has joined the sales staff of Syntron Chicago Sales Co.

Wright Machinery Co., Durham, N. C., has appointed O. E. Esval as vice president and chief engineer. Mr. Esval, formerly

president and chief engiMr. Escal
neer. Mr. Esval, formerly
with Sperry Corp., holds 42 engineering
patents and has published numerous
papers in professional periodicals.



The Mead Corp., Dayton, Ohio, has promoted Vinson K. Shannon to division manager of the Sylva Div. at Sylva, N. C. Mr. Shannon succeeds J. Ramsey Buchanan, who will continue to direct public and community relations.

The Visking Corp., Chicago, has opened a new plant in Flemington, N. J., for the production of plastic film. This is Visking's third in the United States devoted chiefly to the manufacture of polyethylene film and is under the direction of Charles H. Molitor.

E. G. Staude Mfg. Co., St. Paul, Minn., has announced the purchase of High Production Machine Co., Philadelphia



For Quality that's Traditional

ROWELL BOXES

Round and square set-up boxes

... the finest materials and construction



IMPROVED PRODUCT APPEARANCE -LOWER PRODUCTION COSTS



A manufacturer of wood screws increased his product's retail merchandising appeal by changing from cardboard boxes to plastic tube containers which clearly display the screws. He now prints all label data directly on the cylindrical container with a Markem machine. Quickly changed variables in imprints include: quantity, type of plating, head type, length and size. Containers are imprinted as and when needed; no inventory of marked containers need be maintained. The method eliminated outside printing changes, tremendous paper label inventories, and labor of label application. One Markem machine, printing at production rates in exact quantities, has made possible the more attractive and appealing package and at the same time reduced production costs appreciably.

THE MARKEM METHOD CAN HELP YOU

This is just an example of how Markem solves industry's marking problems. The complete Markem Method consists of:

- (1) ANALYSIS of your marking or imprinting problems, (2) RECOMMENDATION of appropriate Markem Machine,
- Markem Type and Markem Ink, and (3) SERVICE - in installation, instruction, maintenance and supply.

If you want to mark products, parts or packages for identification, control or market, get in touch with Markem. The Markem Method has been providing a single source for savings in time, effort and inventory . . . since 1911.





Plants and people

manufacturer of box-making machinery. The sale includes all patent rights and equipment, which will be moved to St. Paul. E. G. Staude is a subsidiary of Bryant Chucking Grinder Co., Spring-

field, Vt.; High Production Machine Co. was formerly a division of Edwin J. Schoettle Co., Philadelphia folding-box manufacturer.

Joseph J. Fiori has been appointed general superintendent of the Toronto paperboard mills of Hinde

& Dauch Paper Co. of Canada, Ltd. Mr. Fiori succeeds E. L. Lukemire, who has retired from the company.

Latchford-Marble Glass Co., Los Angeles, has elected the following officers: William J. Latchford, president; E. E. Balling, executive vice president; William Simkins, vice president in charge of sales; and J. H. Pettker, vice president in charge of production.

Fox Hills Tool & Die Co., Culver City, Calif., manufacturer of heat sealing and packaging machinery, has moved to a factory building at 5747 Marilyn Ave., which will increase production capacity by 30%, according to the company.

Dr. Millard F. Gunderson has been appointed food standards and research director for C. A. Swanson & Sons, Omaha, Neb. Dr. Gunderson, former head of the Department of Medical Microbiology of the University of Nebraska College of Medicine, will continue to serve the uni-

James E. Roddy has been made plant manager of the new corrugated box division of The American Box Co., Cleveland, Ohio.

Western Waxed Paper Div., Crown Zellerbach Corp., San Leandro, Calif., has transferred Clayton Haves to Dallas, Tex.. to establish a sales office. Lloyd Root succeeds Mr. Haves as superintendent of the Los Angeles plant.

Edward S. Cobb has joined the Public Relations Department of American Machine & Foundry Co., New York, as technical information manager.

Two new executive posts have been created in the sales division of the Package Machinery Co., East Longmeadow, Mass. Lewis A. Curtis, formerly staff sales manager, has been appointed general sales manager of the company. J.

Dio phane your product is



SAFE because all DIOphane films are dust- and greaseproof, some are moisture-proof, some even waterproof; and because DIOphane is enormously strong for its weight and thickness. Made in a number of types, there is a DIOphane film just right for packaging your product.

SAFE, SEEN and SELECT!



SELECT because DIOphane's glitter and sparkle have a magic effect on people's impulse to buy; because its standard range of brilliant colours and vivid multicolour printing make it the finest material in the world for making the eye-catching pack.



SEEN because DIOphane cellulose film is 95 % transparent-more so even than window glass which is normally about 90% transparent. Your customers can carefully examine your product yet it remains as fresh and clean as when it left your factory.



Buy Again

and because your sales increase, **DIOphane** pays for itself!

SEND US YOUR ENQUIRIES; ASK FOR MORE DETAILS; WRITE OR PHONE TODAY



Agents throughout the world

TYPE OF FILM PROPERTIES SUITABLE FOR SEALING METHOD General wrapping including cereals
—rice, tapicoa, macaroni, etc. and
foodstuffs requiring permeable
wrapping: soap, cosmetics, bottles
wrapping: soap, cosmetics, bottles
Wire staple
Metal strip
Metal strip Transparent, proof s_ainst dust, air, oil, grease and handling As above, but coloured All properties of P.T. film, but also impervious to moisture Products needing protection against moisture or loss of moisture includ-ing biscuits, confectionery, cakes pharmaceuticals, cigarettes, dried fruits and metal parts Special gum or gummed label Cellulose tape Wire staple Metal strip As above, but coloured As M.T. film, but with greater flexibility M.T.T.W. Moistureproof Twist wrapping confectionery Twistwrap Moistureproof Heatscaling Trans-As M.T. film, but can be heatsealed Same products as listed under M.T. film. Sometimes unsuitable for products which require to be wrapped when hot parent As above, but coloured Special gum or Moistureproof Heatscaling Anchored Trans-parent (waterproof) Transparent, waterproof and heatsealing, the waterproof coating being anchored to the base film M.S.A.T. Cellulose tape Wire staple Metal strip Transparent and heatscaling. Coated on both sides with a lacquer (semi-permeable to moisture vapour) anchored to the base film Cakes, sausages, bacon, green vegetables, fresh fruits, and any products that require to breathe Heatsealing

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Plants and people

Joseph Kelly, formerly field sales manager, has become general sales manager of the Reed-Prentice Corp. of Worcester, Mass., a wholly owned subsidiary of the Package Machinery Co.

The Canning Machinery Div., Food Machinery & Chemical Corp., San Jose,



Calif., has appointed Dr. Harold L. Link as Eastern operations manager and Hubert E. Dobson as works manager of the division's plant at Hoopeston, Ill. Dr. Link succeeds James A. Cleveland, who is on leave of absence. Dr.

Dr. Link also retains his posi-Link tion as Eastern sales manager of Canning Machinery Division.

E. W. Bliss Co., Canton, Ohio, has opened a new can machinery plant at Hastings, Mich., with Frederick B. Porteous as manager.

The Arner Co., Buffalo, N. Y., has announced plans for a major expansion of its tablet-coating facilities to be completed by early spring.

Atlanta Paper Co., Atlanta, Ga., has appointed E. L. Williams as sales manager of the Machinery Division,

The Black-Clawson Co., Fulton, N. Y., has appointed L. A. Moore chief engineer of its Hamilton, Ohio, Division.

L. L. Fitzpatrick has joined the recently organized Black-Clawson Canadian subsidiary, Black-Clawson Ltd., Montreal, as a sales engineer.

Elmer G. Stacy has been appointed sales manager of the Rotogravure Div. of E. G. Staude Mfg. Co., St. Paul, Minn., manufacturer of box-making and printing machinery. Mr. Stacy was formerly with Klingrose Gravure Div., American Type Founders.



Brockway Glass Co., Brockway, Pa., has elected the following: James A. Giddings, vice president and general sales manager; Richard A. Jacobs, vice president and general plants manager; and Leon F. Robertson, vice president in charge of engineering and research. Other promotions include G. C. Noblit, director of purchases, and Fred E. Stewart, purchasing agent. R. L. Warren, Sr., has retired as chairman of the board after 25 years of service. Howard W.

TWO BIG PLUSSES

STRONGEST YOU CAN GET

"STAY-PUT" PRINTING

Durethene

POLYETHYLENE FILM

PROTECTION for your products — the most positive you can get — is the prime feature in any packaging. Tough Polyethylene Film offers that positive protection — and the strongest Polyethylene Film you can get is made by DURETHENE. It's been developed especially to give extra protection at every stage of package life, in packing, in transit, in the marketplace.

And new manufacturing techniques backed up by the most rigid production controls in our two ultramodern plants hold DURE-THENE Film true-to-gauge throughout every roll, to give you assurance of smooth production and sure sealing.

But better protection is not the only plus-value you get when you specify DURETHENE Film. At last you can count on really permanent printing — because three years of research have resulted in DURETHENE's Permatreated ION-FILM, which will give you brilliant, clean printing that "stays put" during the whole life of your package, without offset, flaking or rubbing off.

Leading converters everywhere can give you good service on bags made from stronger, better-printing DURETHENE Polyethylene Film; and a full range of sizes, gauges, colors is also available for all wrapping requirements. Don't settle for less than the finest Film you can get — specify DURETHENE! And send for samples, and the names of DÜRETHENE Converters near you.







Durethene corporation....



Manufacturors of Polyothylana Film

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Sales Offices in Principal Cities

Code-Dates Your Package as You Pack It...automatically



Here is the modern, efficient, cost-saving way to place codedates and other changeable legends on your package... with a Gottscho production-line imprinter. Gottscho machines imprint your packages automatically as part of your present packaging operation—do away with costly manual stamping, labelling or "separate-operation" machine imprinting.

Gottscho imprinting machines are designed to synchronize with existing filling, capping, cartoning, other packaging machines...can be used to apply everything from code-dates to complete "labels" on top, side or bottom of jars, cans,

bottles, canisters, folding cartons and set-up boxes. They make clean, sharp "print-quality" impressions in any color on any surface... assure accurate register and uniform intensity throughout the run.

Gottscho imprinting machines feature 1-minute changeover from one copy legend to another... quick adjustability for packages of different size...simplified design to make end-of-day clean-up an easy 5-minute task. Precision-engineered and ruggedly constructed, you can count on a Gottscho machine for trouble-free performance under continuous production schedules.

Write, wire, phone for more details

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In Canada: RICHARDSON AGENCIES, LTD., Toronto & Montreal

Automatic CODING, MARKING. IMPRINTING MACHINES

Plants and people

Pierson and Charles F. Van Inwegen have joined the sales force at New York and Chicago, respectively.

Deshler Foundry & Machine Works, Deshler, Ohio, has acquired exclusive rights to the manufacture and sale of the Visco-Mat machine, a line of automatic glue-preparing machines developed by Triangle Package Machinery Co., located in Chicago.

Guardian Paper Co., Oakland, Calif., has elected Omar E. Snyder to its board of directors.

Simplex Packaging Machinery, Inc., Oakland, Calif., subsidiary of Food Machinery & Chemical Corp., has announced that all export sales except to Canada, Hawaii and Alaska, will be handled by FMC's Export Div., San Jose, Calif.

Alexander H. Kerr & Co., Inc., manufacturer of glass containers, has opened a sales office in San Francisco, with W. M. Boyd in charge.

H. L. Reitzes has sold out his interests in Globe Heat-Seal, Inc., Los Angeles, and is now an independent packaging consultant located at P.O. Box 48,351, Los Angeles 48.

Samuel H. Donnell has joined the staff of Raymond Loewy Associates, New York, in an executive capacity.

William Dailey has joined the sales staff of National Container Corp.'s New York office

Republic Foil & Metal Mills, Inc., Danbury, Conn., has appointed Jeffrey W. Cook to its sales staff.

Leslie Jacobs, Jr., has been promoted to manager of the Atlanta and Birmingham operations of Pollock Paper Corp., located in Dallas, Tex.

Permacel Tape Corp., New Brunswick, N. J., has opened a new 11,000-sq.-ft. warehouse in suburban Detroit.

Frank E. Falk has retired as vice president, general manager, of Rossotti California Lithograph Corp., San Francisco.

Charles D. Watrous has been made sales representative in Washington and Oregon for the Steel Strapping Div. of Stanley Works, New Britain, Conn. Mr. Watrous will headquarter in Seattle.

Sinclair & Valentine Co., New York, manufacturer of printing inks, has concluded an affiliation agreement with

NEW water-reducible High-Gloss ACICAL Overprint Varnish



FLEXOGRAPHIC PRINTERS ACCLAIM NEW IPI AQUALOX FOR ITS AMAZING ECONOMY AND RUB-RESISTANT GLOSS ON CARTONS AND KRAFT AND SULPHITE STOCKS

Ideal for cartons and absorbent stocks, here is IPI's unique new Aqualox high gloss overprint varnish, which needs no solvent reducer. Aqualox varnish reduces with just ordinary tap water.

It lays smoother . . . prints sharper . . . and not only produces unusual color depth, but retains its sparkle longer. Repeated commercial tests *prove* Aqualox equal to alcohol and oil base varnishes in durability and rub-resistance.

Aqualox saves you money as well. It needs less attention due to its excellent press stability and greater uniformity. Clean-ups are faster, easier, less costly.

What's more, Aqualox is *safer* to use and there are no unpleasant solvent fumes.

When you next need a *quality* flexographic overprint varnish, first use the varnish that *is* first: IPI Aqualox—*first* in appearance, *first* in toughness, *first* in economy.

IPI, IC and Aqualox are trademarks of Interchemical Corporation

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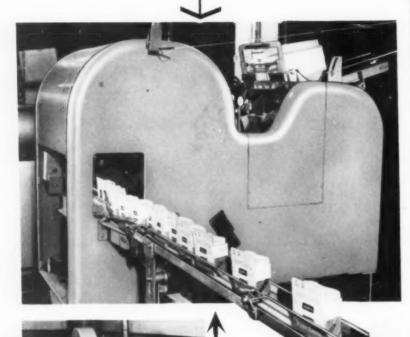
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MARCH 1955

173

Start Increasing PACKAGING PROFITS

Here



Add Peters Model CCY Folding & Closing Machine

Combined with Model SE, this Peters machine gives you an unusually efficient packaging line. Automatically folds and closes a wide variety of cartons at 120-perminute or more. Handles Peters style cartons and also other types of hinge cover cartons.

This Peters Model SE Carton Forming & Lining Machine does an almost unbelievable job of reducing packaging costs. It sets up Peters style cartons, lined or unlined, at speeds up to 120 per minute. It's fully automatic. It's versatile--capable of handling a variety of carton sizes. There may be an excellent spot for this Model SE in your packaging line. Why not investigate?

Peters engineers will gladly help determine your specific requirements, Write, wire or call

Peters MACHINERY COMPANY

4712 Ravenswood Avenue Chicago 40, Illinois

Plants and people

R. Collie & Co., Pty., Ltd., of Melbourne, Australia, and its associated company, Printing Inks & Machinery, Ltd., New Zealand.

The Sylvania Div., American Viscose Corp., Philadelphia, has appointed How-

ard J. Price, Jr., as sales representative in northern Illinois. He will headquarter in Chicago,

Oliver L. Niehouse has been appointed sales promotion manager of TCF of Canada, Ltd., Montreal, manufacturers of transparent cellulose film. He



Niehouse was previously acting technical service manager for the Olin Film Div.

West Virginia Pulp & Paper Co., New York, has transferred Albert L. Armitage to its New York sales office.

R. Dudley Ross has joined the Westfield River Paper Co., Inc., Russell, Mass., as West Coast sales representative. He will locate in Los Angeles.

Norval W. Postweiler has been appointed deputy director of the Containers & Packaging Div., U. S. Dept. of

Commerce, succeeding the late Willis L. Rowlands. Mr. Postweiler is on loan from Riegel Paper Corp., New York.

Marathon Corp., Menasha, Wis., has named Kenneth G. Houts Western region sales manager for frozen- Mr. Houts food packaging. Mr. Houts will headquarter in San Francisco,



R. A. Mehler has joined Dave M. Chadwick as a partner in Distiller & Bottlers Supply Co., Louisville, Ky. The firm will represent the United States Printing & Lithograph Co. in the Louisville area.

Stone Container Corp., Chicago, has appointed Edwin V. Taylor to the newly created position of Southeastern sales manager of its Mobile, Ala., division.

Gabriel Box & Carton Co., Los Angeles, has changed its name to Gabriel Container Co. Ownership and management remain the same.

J. L. Clark Mfg. Co., Rockford, Ill., manufacturer of lithographed metal containers, has purchased the Liberty Can



Packages made of Krafibre have that plus quality — that combination of strength and attractive appearance that gives a package more shelf appeal . . . makes it say "Buy Me!" Krafibre gives you the 3 big features you're looking for in a box board:

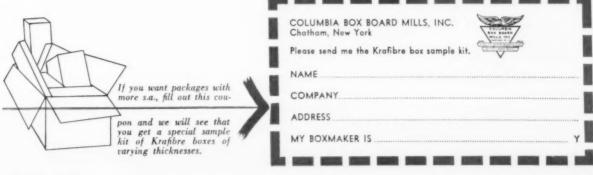
Great strength and tear resistance. It's much stronger than chipboard of equal thickness.

2 Economy. It costs less than any other type of board of equal strength.

3 Lightness. It's lighter — and so, saves shipping costs.

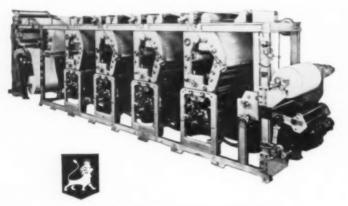
Of course, Krafibre is available in natural, white lined and colors, and is adaptable to special treatments. It takes printing beautifully.

Krafibre is a development of Columbia Box Board Mills, Inc., . . . one of the largest INDEPENDENT BOARD MILLS in the east, continuously producing the best in boxboard since 1916, exclusively for the independent boxmaker.





THE HALLEY STORY is one of singular interest to quality minded cost conscious printers. Halley gravure rotary presses utilize many clear cut time saving features—pioneered and patented by Halley. When your time permits, facts, figures and basic data merit your consideration.



Halley Rotopress Corporation

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Plants and peòple

& Sign Co., Lancaster, Pa., which will be operated as the Liberty division of J. L. Clark. Roland E. Palmer, production manager at Clark, has been named manager of the Liberty plant and William O. Nelson will conduct the division's sales

program. Adam Batdorf, president and treasurer of Liberty Can, will remain in an advisory capacity during the transitional period.



George Bowen has been named manager of the advertising department of Robert Gair Co., Inc., New

Robert Gair Co., Inc., New Mr. Bowen York. Mr. Bowen first joined the company in 1953.

Max Potash has been named manager of the newly formed Polyvinyl Chemicals Div., Stahl Finish Co., Peabody, Mass. Harold Naidus has been named director of development and sales.

The Celluplastic Corp., Newark, N. J., has appointed Edwin W. Lynn as product development manager.

Robert M. Silverson has been made assistant to the president of Crystal Transparent Corp., Englewood, N. J.

Dr. L. H. Dunlap has been promoted to manager of the Chemistry Dept. of the research and development center of Armstrong Cork Co., Lancaster, Pa. Dr. Dunlap succeeds Dr. E. J. Pieper, former manager, who has retired after 34 years of service.

Maxson A. Eddy has been appointed general manager of the Globe Collapsible Tube Corp., Long Island City, N. Y. Mr. Eddy succeeds Clement M. Brown, Jr., who has been named to an executive position in the International Div. of Olin Mathieson Chemical Corp., N. Y. Mr. Eddy formedly headed the Eddy Glass Co., packaging consultants.

The Kennedy Car Liner & Bag Co., Inc., Shelbyville, Ind., has purchased the Justice-Doyle Co., Jeffersonville, Ind., manufacturer of polyethylene bags and specialty items. Martin Justice has been employed by Kennedy's production staff.

The Cryovac Div. of Dewey & Almy Chemical Co., division of W. R. Grace & Co., Cambridge, Mass., has purchased 200 acres of land near Greenville, S. C., for construction of a third plant to manufacture Cryovac plastic bags for packaging meats, poultry and cheese. The new plant is of one-story construction and will

SHEFFIELD TUBES

SELECTED BY THE UPJOHN COMPANY



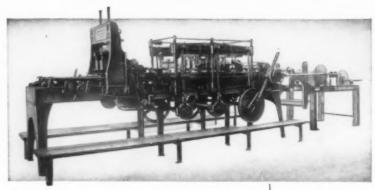
In man's patient fight against bodily ill, pharmaceutical companies steadily contribute

potent new combination formulae. Upjohn's Neo-Cortef ointment combines

anti-inflammatory action with wide-range anti-bacterial action. It's prescribed by physicians for many skin infections including certain types of eczema, pruritis and dermatitis. For this effective ointment, Sheffield Process Tubes...the sanitary safe collapsible metal tube...is a natural selection. Why not use Sheffield for your next order!

It's adjustable . . . it's automatic . . .

INMAN TRAY MACHINE FOR SET-UP BOXES



When dependable output must be coupled with dexibility and rapid changeover, it is a perfect situation for the No. 9 Adjustable Die Tray Machine.

Working from a roll of the proper width, it dies out, creases, pastes, and sets up one piece at a time. Production: 30 pieces per minute. A solid die version of this machine will turn out up to 75,000 pieces per eight hour day, depending on box size.

Size range:

Specifications:

| Noorspace | 5' x 20' |
|-----------------|------------------------|
| horsepower | , |
| driving pulley: | diam. 20", face 5" |
| pulley speed | 120 R.P.M. |
| weight | 14,000 pounds (crated) |

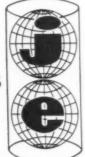
Designed, built, and guaranteed by Inman, manufacturer of fine boxmaking machines for over seventy-five years.

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AMSTERDAM, NEW YORK





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makers of



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VACUUM FORMS

METAL BOTTOM

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Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation. If your problem is high speed coating of point, varnish, glue, latex, etc. — POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency. Illustrated is just one of hundreds of special machines. It lominates rolls of materials up to 20" wide at speeds up to 50 feet per minute.



POTDEVIN MACHINE CO.

244 North Street • Teterboro, N. J.
esigners and manufacturers of equipment for Bag Making
rinting. Coating, Laminating, Glying, and Labeling

Plants and people

have facilities for extruding, bag fabricating and four-color printing. It is expected to begin operation by midsummer. Edward F. Beyer, Jr., will be plant manager and Harry A. Brown will be assistant manager. R. A. Miller suceeeds Mr. Beyer as manager at the Lockport, N. Y., plant.

Food Machinery & Chemical Corp., San Jose, Calif., has acquired the food canning machinery business of Chain Belt Co., Milwaukee, Wis. Included in the transaction are patent rights, trademarks, tools, drawings and finished inventory.

P. L. Andrews Corp., manufacturer of glassine and cellophane envelopes for textiles, pharmaceuticals, packaging paper products and other items, has moved into new manufacturing headquarters in Hicksville, N. Y.

Dr. E. M. Huttrer has been appointed head of the Special Machinery Dept. of C. Tennant, Sons & Co., New York. The department is exclusive representative for European manufacturers of automatic packaging and wrapping machines and also builders of processing machines for the chocolate and candy industries. Among the firms represented by Tennant are Justus Theegarten, Germany, and A. E. Nielsen Machine Factory, Denmark.

Columbia Box Board Mills, Inc., Chatham, N. Y., has appointed Henry H. Wilson as salesman for New York State west of Schenectady. Columbia has opened an office in Boston, Mass., with Charles H. Goodwin, sales representative in the eastern New England area, in charge.

Meyer Goldman, 41, manager of the Quality Control Dept., Plastics Div. of Visking Corp., Chicago, died on January 11 in his home in Terre Haute, Ind. Mr. Goldman, who was active in several professional organizations, had been a contributor of articles to the Technical Section of MODERN PACKAGING.

Thomas C. Fulton, vice president and secretary and a director of Anchor Hocking Glass Corp., Lancaster, Ohio, died suddenly on Jan. 7 at the age of 72.

William Schild, 51, manager of the box paper department of Chicago Paper Co., Chicago, died on Jan. 12.

Willis Rowlands, with Continental Can Co., New York, as Washington representative since 1941, died on Jan. 14.



Hundreds of firms use the Tickometer to code and date labels, coupons, etc., and save printing costs as well as time.



Want something counted?

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The Pitney-Bowes Tickometer will count, and optionally code, date or otherwise imprint product labels, job tickets, coupons, checks, etc...at speeds up to 1,000 pieces a minute... five to ten times faster than experienced workers can count or stamp by hand. And it's so accurate, banks use it to count currency!

Thousands of firms in many lines of business use the Tickometer to get fast accurate results. Especially valuable to food and drug processors and packers for faster, cheaper, coding or dating and identifying of their product labels.

Rented rather than sold, the Tickometer quickly pays for itself. Service is available from 201 service points, coast-to-coast. Ask your nearest PB office for a demonstration, or send for free illustrated folder and booklet of case studies in various fields.

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Because of their ease in handling and use, products like these—adhesives, rubber and synthetic cements, tooth pastes, shaving creams, paints, tire sealers and other fluids—package better in tubes . . . Wheeling tubes. Each of these, of course, presents its own particular problem; but not an insurmountable one to Wheeling packaging engineers. Illustrated are a few of the many types of tube openings engineered by Wheeling to fit the product. The same packaging skill represented by these can be applied to your products. Better packaging by WHEELING means better business for you!

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Koppers has compiled and published this handy, pocket-size Directory of Polystyrene Packaging Suppliers as a service to everyone interested in packaging a product. The Directory lists both custom and proprietary molders in simple alphabetical form, according to city and state. It is neat, readable, easy to handle.

Are you wondering who stocks a certain standard-type package? Or who will mold one to suit your exact specifications? This little booklet will quickly direct you to the right company.

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MARCH 1955

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For your information

Dr. L. V. Burton, executive director of the Packaging Institute since 1947, has retired from active direction of the In-





Dr. L. V. Burton

C A Fold

stitute, but will remain on the staff as a part-time consultant in charge of editorial activities. Charles A. Feld, associate director since November, 1954, has taken over the administrative responsibilities of the Institute. During Dr. Burton's term of office, PI has tripled in size and its technical committees have increased from one to 26. Dr. Burton plans to write several books and do consulting work in food technology and packaging. He will continue to live in Scarsdale, N. Y., but can be reached through the Institute at 342 Madison Ave., New York 17.

Additional officers elected at the recent second annual meeting of the Pressure Sensitive Tape Council are: John M. Cook of Behr Manning, vice president; Richard G. Breeden, Jr., secretary-manager and treasurer; William Boyland of Seamless Rubber Co. and Bernard W. Lueck of Minnesota Mining, directors.

A brochure on the aims and objectives of the Pressure Sensitive Tape Council has just been published and is being made available to industry, Government agencies, schools and universities, as well as other interested individuals and groups. It sets forth facts and information about the trade group and lists members of the council. Copies of the brochure are available from R. G. Breeden, secretary-manager, Pressure Sensitive Tape Council, Glenview, Ill.

The nationally televised program of the National Assn. of Manufacturers will soon feature a salute to the corrugated board industry and makers of the machinery for its production. The film, made at the Camden, N. J., plant of the Samuel M. Langston Co., depicts the various steps in the manufacture of corrugated. It will be shown by various television stations throughout the U. S.

The following changes in the line-up of officers of the Society of Industrial Pack-

aging & Materials Handling Engineers has been announced: John Mount of Insurance Co. of North America, formerly secretary, has been named vice president to fill the unexpired term of the late A. C. McGeath. Robert C. Cragg of Gould Storage Battery Corp. is now secretary. M. C. Weisenhorn of Jiffy Mfg. Co. has been named treasurer to succeed M. A. Grogel. W. B. Lincoln of Inland Container Corp. has been appointed national director.

A full-color, sound, cartoon-style movie is being produced by the Paraffined Carton Research Council for distribution to television stations, theatres, consumer groups and ice-cream manufacturers. Designed for the consumer audience, especially children, the movie will promote pre-packaged ice cream. A special trailer at the end of the cartoon will be designed for use by ice-cream manufacturers at their sales meetings. Plans call for release of the movie in the spring.

Dr. David M. Ashkenaz of the Wyeth Pharmaceutical Div., American Home Products Corp., has been re-elected president of the Parenteral Drug Assn. Also elected were Dr. Harold Blumberg, Endo Products, Inc., Eastern vice president; William S. Bucke, Lafayette Pharmacal, Inc., Western vice president; F. C. Ninger, Warner-Chilcott Laboratories, secretary; L. James Graham, Burroughs-Wellcome & Co., treasurer. New directors are: John Henderson of Chase Equipment Corp.; Joseph F. Greene of Kimble Glass Co.; Dr. Anton K. Maier of Sandoz Chemical Works, Inc.

The Fibre Box Assn. has established an office at 215 Market St., San Francisco 5, to better serve its member manufacturers on the Pacific Coast. Telephone number is SUtter 1-6932. Charles G. Andrew is in charge of the office.

New York University has scheduled an eight-session seminar on Economies Through Materials Handling from Feb. 7 to Mar. 28. Purpose of the seminar is to present fundamental techniques that should allow for finding, selling and putting to use improved cost-reducing materials-handling methods. Fee for the course, being presented on consecutive Mondays, is \$50. Further information is available from Denis Sinclair Philipps, director, The Management Institute, Div. of General Education, New York University, 1 Washington Sq. N., New York.

The Steel Package Div. of Geuder, Paeschke & Frey Co. has published a new catalog showing its line of steel shipping containers for the petroleum, paint and chemical industries. It illustrates and gives specifications for the containers, together with the various types of spouts available for use with pouring pails and tight-head drums. Copies of the booklet are available on request to the company at 324 N. 15 St., Milwaukee I. Wis.

The 1955 Annual Food Processors Short Course at the Oregon State College has been changed in content and organization this year to provide new opportunities for men working in food-processing plants to increase their technical knowledge and skills. It has been planned as a three-year course and will run for one week a year for three successive years. This year the course was held the week of Feb. 7; dates for the 1956 and 1957 sessions will be announced later. Inquiries may be sent to C. J. Wilder, Food Technology Dept., Oregon State College, Corvallis, Ore.

The Glass Container Mfrs. Institute has appointed Kenyon & Eckhardt, Inc., to handle its national advertising program.

A conference on materials-handling techniques, to be conducted by the engineers who use the equipment, will be held in conjunction with the National Materials

What's doing

Mar. 13-16—National Frozen Food Convention-Exposition, Conrad Hilton Hotel, Chicago.

Mar. 27-30—Philadelphia Gift Show, Hotel Benjamin Franklin, Philadelphia.

Mar. 28-30—American Management Assn., Conference on Manufacturing, Palmer House, Chicago.

Mar. 29—Packaging Assn. of Canada, Third Canadian Point-of-Purchase Advertising Conference, King Edward Hotel, Toronto.

Apr. 5-7-Point-of-Purchase Advertising Institute, Ninth Annual Symposium and Exhibit, Palmer House, Chicago.

Apr. 16-17—Packaging Machinery Mfrs. Institute, semi-annual meeting, Palmer House, Chicago.

Apr. 18-21—National Packaging Exposition, International Amphitheatre, Chicago.

THE Aerosol Valve FOR YOUR PRODUCT by Precision Known throughout the World"

NOW ... Precision's same high quality, time-tested aerosol value is being manufactured in England, France, Germany, Italy and Brazil. The availability of the Precision Valve throughout the world now permits your foreign sales to enjoy the same aerosol growth and success that has been experienced in this country. So wide-spread has been the public acceptance and demand for selfdispensing packages, that new type products and additional brands are added daily to the long list. Now is the time for you to investigate this market.

Why is Precision the Leader?

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CONTAINER . . . Precision has a valve engineered for the aerosol container of your choice plus the widest selection of plastic colors to enhance the beauty of your package.

PRODUCT... Plastic construction eliminates corrosion enabling Precision Valves to perform efficiently for all products whether foam, residual or true aerosol.

FILLING METHOD . . . All types of aerosol products with Precision Valves, are being filled successfully by pressure

as well as refrigeration at the lowest possible cost.

QUALITY . . . Precision's basic research, production skill, development techniques, 100% inspection of every valve plus the background of over 150,000,000 time-tested valves is your assurance of quality.

ECONOMY . . . The highest plant production efficiency, as well as the lowest rejection rates for filled containers, assures maximum economy with Precision Valves.

AVAILABILITY • • • The world's largest aerosol valve manufacturing facilities, are combined with the lastest production methods and techniques, to give prompt production and delivery schedules.



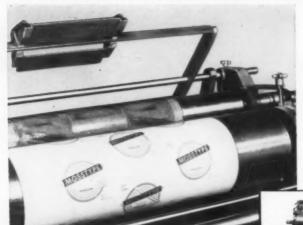
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Now you can keep more jobs standing...carry a wider range of repeats. This new type of rubber plate cylinder assembly costs far less, but has the precision accuracy and concentricity of finest shafted rolls. Lightweight...easy to handle and store. Assembled and disassembled in minutes. 'D-MOUNTS" are available as bare cylinders . . . or as all-over Design Rollers.

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For your information

Handling Exposition at the International Amphitheatre in Chicago, May 16-20. The conference is being sponsored by the American Material Handling Society. Clapp & Poliak, Inc., exposition management firm which produces the show, has made a grant to the society to underwrite the expenses of the meeting. The Chicago section of the society will act as host and prepare the program. L. J. Riege, United States Gypsum Co., has been named chairman of the conference.

David P. Reynolds, Reynolds Metals Co.'s vice president in charge of sales, has been named "Man of the Year" in the

light-metals industry. His selection, announced in the January issue of Mod-Metals magazine, cites the aggressive merchandising of the company's aluminum products under the direction of Mr. Revnolds as the outstanding achievement in the industry in 1954. It places



Reynolds

particular emphasis on the company's merchandising of household foil and aluminum-foil packaging.

Koppers Co., Inc., has prepared a pocketsize directory of custom and proprietary molders of polystyrene in the United States and Canada who serve the packaging industry. Copies of this "Packaging Suppliers Directory" may be had from Koppers' Public Relations Dept., Koppers Bldg., Pittsburgh 19, Pa.

A gift of some 38 volumes valued at nearly \$2,000 has been presented to the Western Michigan College paper technology department library collection by Dr. Clarke Everest, chairman of the board, Marathon Corp., Menasha, Wis. Of particular note in the collection are 12 volumes on paper making by Dard Hunter of Chillicothe, Ohio. The collection, dating back to 1801, includes titles from America, England, Holland, Germany, France and Canada. In a brief ceremony, Dr. Everest personally presented the volumes to the college library.

A newly published volume, "The Business Founding Date Directory" by Etna M. Kelley (Morgan & Morgan, Scarsdale, N. Y.; \$10), should serve as a stimulant to advance planning by business organizations of their anniversaries, as well as an aid to those offering services or products to facilitate the celebration of business anniversaries. This 240-page book gives alphabetical and chronological listings of the names, addresses and founding dates of more than 9,000 established business firms covering a period of 225 years from 1687 to 1915. It serves as a reference book and is of active value for direct correspondence.

The Advertising Trades Institute, Inc., has scheduled its 2nd Sales Aids Show for May 23-25, Biltmore Hotel, New York. Registration this year is expected to exceed last year's 9,200 attendance. The ATI also sponsors the Advertising Essentials Show, which is scheduled this year for Nov. 14-16, Biltmore Hotel, New York.

David E. Ryan of the Edgewater Paper Co. has been re-elected president of the



Waterproof Paper Mfrs.
Assn. Also re-elected were
Walter Shorter of Camp
Mfg. Co., vice president,
and Philip O. Deitsch, secretary-treasurer and administrative officer. The
following were elected to
the board: S. A. Feely of
Keystone Roofing Mfg.
Co.; Stanley G. Yount

D. E. Ryan

Co.; Stanley G. Yount
of Southland Paper Converting Co.;
Ford A. Larrabee of Cincinnati Industries, Inc.; A. J. Thiel of Angier Corp.;
Douglas Donovan of Specialty Converters, Inc.; Charles Judge of American Sisalkraft Corp.; A. A. Scholl of International Paper Co.; and E. A. Rounse-

Denman Sinclair has been appointed merchandising services secretary of the Packaging Assn. of Canada, Toronto.

ville of Glas-Kraft, Inc.

The first national conference ever to deal exclusively with the commercial applications of general-purpose electronic equipment was conducted recently by the American Management Assn. Combined with the conference was a concurrent exhibit of electronic data-processing equipment. More than 1,000 persons attended the conference and show.

The American Management Assn. has published a book entitled "Company Experience in Improving Packaging Efficiency," Packaging Management Series No. 45. Copies of this 48-page book are available at \$1.25 each, or at \$1 to AMA members, from the American Management Assn., 330 W. 42 St., New York 36.

Keynote speaker at the recent 3rd Canadian Package Design Forum held in Toronto was Lorain Fawcett, president of Allcolor, Inc., New York. The event, sponsored by the Canadian Package Design Council, was attended by some 200 experts in the packaging field.

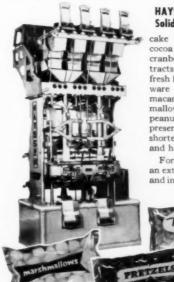
Printed copies of Simplified Practice Recommendation R255-55, Standard Sizes of Paperboard Cartons for Ham-

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COMPLETE PACKAGING IN A SINGLE MACHINE

The COMPAK automatically forms, fills and seals the package with each cycle, producing sales-appealing, hermetically sealed packages at a rate of from 40 to 150 per minute. This completely automatic operation will save products, labor and material. The Hayssen COMPAK readily handles all heat sealing packaging materials and their laminations. It has a wide size range from $34'' \times 212''$ long to $718'' \times 14''$ long, employing a simple hand crank package length adjustment, and the low silhouette places all parts within easy reach.

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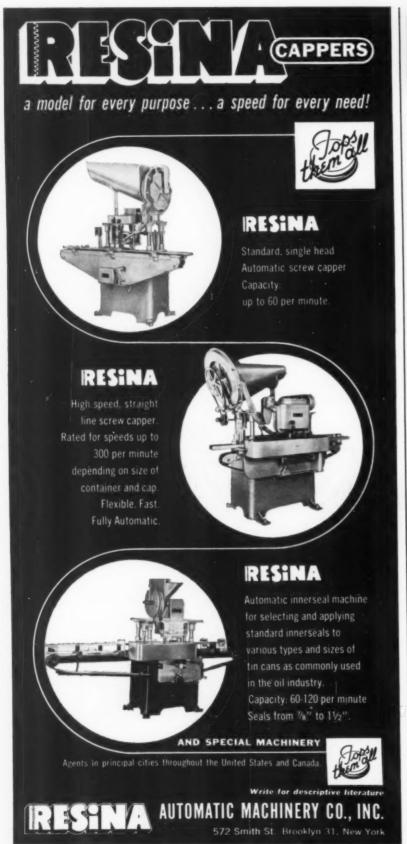
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burger Buns and Wiener Rolls, are now available, according to the Commodity Standards Div., U. S. Dept. of Commerce. The recommendation establishes 34 sizes of paperboard cartons used by bakers for packaging hamburger buns and wiener rolls. Copies are available at 5 cents each, with a 25% discount on orders of 100 or more, from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

The National Paper Box Mfrs. Assn. has announced the nine judges for its 1955 "Design and Use" packaging competition: E. H. Balkema of Colgate Palmolive Co.; A. P. Bondurant of Glenmore Distilleries; Robert S. Dunlop of Dominion Paper Box Co.; Milton L. Fitch of Howard-Wesson Advertising; Walter Hilliard of Dennison Mfg. Co.; Roy Larsen of Raymond Loewy Associates; Mrs. Virginia McCone of Ladies' Home Journal; W. F. Morphy of R. H. Macy & Co.; Kenner S. Omer of General Electric Co.

Leslie J. Chaffee of Chaffee Bros. Co., has been elected president of the National Wooden Box Assn. for the coming year. Life honorary membership in the association has been extended to Curt F. Setzer of Setzer Forest Products, retiring president. Arthur Temple, Jr., of Temple Associates has been elected to a vice presidency. New members of the executive committee are J. C. Anderson, Gideon-Anderson Lumber Co.; H. S. Dunning, J. H. Dunning Corp.; Robert W. Hill, Hill & Neuman Co.; F. H. Keran, Golden West Box Co.; D. A. Mc-Neill, Jr., McNeill, Lauff & McNeill; Robert F. Miles, Rathborne Hair & Ridgway Box Co.; John M. Nelson, III, The Nelson Co.; F. Perry Smith, Jr., Cumberland Box Co.

The American Society for Testing Materials has just published a "Directory of Commercial and College Testing Laboratories." This directory is a successor to the one published in 1947 by the National Bureau of Standards as Miscellaneous Publication M 187. By agreement between the two organizations, responsibility for its compilation and publication has been transferred to ASTM. The directory lists locations of commercial testing laboratories and 86 college laboratories equipped to do testing under certain conditions. Copies are available at \$1 each on request to the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.

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HELPFUL LITERATURE

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EQUIPMENT . SUPPLIES . SERVICES

"VISKON" NONWOVEN FABRICS. Booklet contains samples of "Viscon" nonwoven cotton and rayon fabrics which are heat sealable, exceptionally porous, wet strengthened and sanitary for food packaging applications. The Visking Corp.

table Printing Unit. Brochure on new unit for imprinting all types of label stock, gummed or ungummed, heat seal or pressure sensitive, as well as all types of tag stock, at the rate of 150 per minute. A. Kimball Company. (C-552)

DRUM LINERS. Portfolio discusses physical properties and contains miniature samples of "See-Safe" polyethylene circular bottom and flat drum liners for use in a new method of bulk packaging liquid, semi-liquid, or solid products. Mehl Mfg. Co. (C-553)

PRESSURE SENSITIVE TAPE COUNCIL. Brochure contains facts and information about this organization which is working at the job of standardization in nomenclature and test methods within the pressure sensitive tape industry. Pressure Sensitive Tape Council. (C-554)

VENTILATED FILM. Details on the advantages of using "Respiro-Pak" ventilated film for pre-packing of produce. Cello-Masters, Inc. (C-555)

TESTING WATER VAPOR TRANSMISSION. Eight page informational bulletin investigates methods used to determine the water vapor transmission rates of packaging materials. Evaluates known methods, and offers a new simple method that approximates field performance. Chester Packaging Products Corporation. (C-556)

CORRUGATED WRAPPERS. Folder shows five types of white single-face corrugated wrappers for use in protecting cosmetic, pharmaceutical, ceramic and industrial products. The Hankins Container Co. (C.557)

"CANNING FOR PROFIT." Literature covers complete line of can fillers for handling liquid and semi-liquid food products. Inplant photos and actual production statistics, filler speeds, products handled and containers used are shown. Horix Manufacturing Company. (C-558)

PALLETIZING FILLED MULTIWALL BAGS. Ten page report, based on laboratory tests and field checks, contains useful ideas and suggestions to facilitate handling, shipping and adapting bags now being used to fit a given pallet. Arkell & Smith.

ACETATE AND VINYL PACKAGING MACHINE. Company offers Modern Packacing reprint and specification sheet describing "Thermatron" unit for electronic contour packaging of small items in a single operation. The machine consists of a high frequency sealing generator, sealing press and a turntable. Thermatron Division Radio Receptor Co. (C-560)

PLASTIC MOLDED BOXES. Literature illustrates and gives dimensions of a wide variety of stock molded plastic boxes used in many packaging operations. Covers clear, and colored opaque, multicolored sprays, etched and other effects. The Ira Harmon Company, Inc. (C-561)

ADHESIVES FOR WEB LAMINATION. Manual lists 26 laminatable materials and indicates the proper "Bondmaster" adhesive to use to laminate each to itself or to any of the others. Materials covered include cellulose acetate, polyethylene, polystyrene, saran, vinyl, "Mylar," cellophane and aluminum foil. Rubber & Asbestos Corp. (C-562)

RE-USABLE CONTAINERS. Booklet describes advantages gained by packaging, storing and shipping industrial materials in scientifically constructed, re-usable metal containers. Containers, designed for heavy duty packaging, are made to specifications. Peters-Dalton, Inc. (C-563)

ELECTRONIC SEALING MACHINES. Applications for the "Thermatron," which include packaging hardware, cosmetics, drugs, candy, sporting goods, etc., in vinyl, saran and acetate materials are explained in bulletin. Covers principles of dielectric heating. Cargo Packers Special Products Co. (C-564)

STOCK PLASTIC BOXES. Catalog illustrates and gives dimensions of 75 rigid boxes, available in clear and colors, without mold cost, plus a number of formed acetate domes and slide cover boxes.

Oppenheim Co. (C-565)

HAND-WRAPPING MEATS. Manual gives illustrated, step-by-step procedure for wrapping meats in heat-sealable materials.

Shows use of hand sealing iron, recessed hot plate and sealing of irregular shaped packages. Sylvania Division, American Viscose Corp. (C-566)

PACKAGING SMALL ITEMS. Booklet covers the advantages of using plastic vials for packaging small, hard-to-handle items such as pills, powders, small machine parts, cosmetics, etc. Lusteroid Container Co. Inc. (C-567)

STAMPING AND PRINTING PRESSES. Details on different models of hand and compressed air operated roll leaf stamping presses, and printing presses. Complete specifications and advantages are discussed. Olsenmark Corp. (C-568)

PRINTING INKS. Special anniversary brochure describes company's facilities and outlines current trends in gloss inks for corrugated boxes and cartons, as well as inks for food packaging and for printing on foil, film, and other special surfaces.

Sinclair and Valentine Co. (C-569)

CANE FIBREBOARD CUSHIONING. Brochure illustrates how fabricated sections of Celotex industrial cane fibreboard cut packaging time and provide ideal suspension for engines, machine parts, automotive components and other units which need protective packaging. Celotex Corp.

AEROSOL VALVES. Bulletin pictures and describes the five models which stem from the one basic aerosol valve design. Cross sectional drawings show internal details of basic valve and five actuators which adapt valve to different dispensing functions. The Risdon Manufacturing Company. (C-571)

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EQUIPMENT . SUPPLIES . SERVICES

CREATIVE PACKAGE DESIGN. Illustrated brochure shows company's facilities for designing and testing packages to meet a variety of demands. Includes list of corrugated devices designed to provide safer packaging. Hinde & Dauch. (C-572)

GUMMED CORRUGATORS TAPES. Portfolio contains 15 samples of gummed tapes in a variety of colors and backings. Included is a glass-fibre tape, bonded with a non-asphalt laminate, Two samples of each is included to permit ample testing. Nashua Corp. (C-573)

PLASTIC TUBE SEALER. Facts on new, semiautomatic machine for sealing polyethylene tubes. Unit especially designed to handle Bracon-type plastic tubes from %" to 2%" in diameter, at speeds up to 30 units per minute. Carbert Mfg. Co., Inc.

PRINTING EQUIPMENT. Eight page directory of equipment for the graphic arts industry shows complete lines of Harris offset presses, Seybold power paper cutters, Cottrell roll-fed gravure presses, etc. Harris-Seybold Co. (C-575)

SPIRAL FEEDERS. Facts on the use of vibratory motion in a spiral ramp elevator as a method of elevating or lowering bulk materials and controlling the speed of elevation. Pamphlet lists advantages and specifications. Syntron Co. (C-576)

SAG FILLING. Complete description and specification of four hand-fed filling machines for reducing the labor needed to bag textile products, produce and other items. Designed for use with plastic, paper or combination bags. Tele-Sonic Packaging Corp. (C-577)

JOB-ENGINEERED PACKAGES. Brochure details step-by-step method of solving diffi-

cult packaging problems. Methods of designing and testing are also shown and in-plant photographs illustrate case history. General Box Company. (C-578)

TABLET AND CAPSULE COUNTING MA-CHINES. Leaflet describes two units for counting capsules, tablets and other small items having a uniform diameter. Machines are described as capable of filling bottles, vials, boxes, cans, bags, etc. The Burnet Company. (C-579)

ELECTRIC HEATING UNITS. Catalog covers cartridge, strip, band, ring, tubular, and immersion heating units for use in heat sealing, heating liquids, etc. Vulcan Electric Co. (C-580)

GRAVURE BOOKLET. 24 page brochure describes up to date procedures in engraving a rotogravure cylinder. Illustrations and text cover complete operation from time order comes into plant until finished cylinder is shipped. Southern Gravure Service Inc. (C-581)

FILLING EQUIPMENT. Data on Kiefer Machines for filling liquids and semi-liquids into bottles, jars and tubes, and for cleaning and rinsing bottles. The Karl Kiefer Machine Co. (C-582)

FOLDING CARTON SPECIFICATIONS. Instruction sheets for die cutting and manufacturing reverse tuck cartons to be run on cartoning equipment manufactured by E. L. Bivans, Inc. (C-583)

PRESSURE SENSITIVE PLASTIC TAPE. Pictures and descriptive materials show many of the uses of new labeling aid, and an actual sample of the pressure sensitive plastic tape which accepts writing. Labelon Tape Co., Inc. (C-584)

PACKAGING MATERIALS. Data describes a new line of "Jiffy Rugated" packaging materials designed for cushioning, interior and exterior packaging, surface protection, and shock absorption. Cut-away drawings show multiple layers of different types available. Folder illustrates wide variety of uses. Jiffy Manufacturing Co. (C-585)

SAMPLE CELLOPHANE BAGS. Company offers packet containing twenty-five 11" x 18" cellophane "Strongtop" bags featuring a special cord-reinforcement for added strength at bag top. Melrose Packaging Corp. (C-586)

BOX FORMING MACHINE. Description of small machine capable of forming up to 2,000 complete set-up boxes per eight hour day in a wide range of sizes. Hoague Sprague Corp. (C-587)

AUTOMATIC ROLL SHEET CUTTER. Booklet lists five models of the Beck Roll Sheet Cutters, their general features and operations. Lists numerous sheet cutter attachments used in conjunction with these machines. Charles Beck Machine Corp. (C-588)

"INTERMITTOR" INDEX TABLES. Catalog gives engineering drawings, details and index tables for six intermittor units with dials ranging in size from 12" to 48". Information on how to choose a standard intermittor is given. Roller Gear Division, Ferguson Machine & Tool Co. Inc.

DEHUMIDIFIERS. Descriptive literature on Desomatic equipment for dehumidification of air. Lists methods of air cooling and circulation, and the various machinery involved in the operation. Daly, Merritt & Sullivan, Inc. (C-590)

PLASTICS MATERIALS. Catalog contains data and price information on sheets, rods, tubes and films made of acrylic, vinyl, polyethylene, fluorocarbons, polystyrene, acetate, nylon and laminated materials. Commercial Plastics and Supply Corp. (C-591)

FLEXOGRAPHIC PRINTING. Latest issue of the IPI "Anigram" shows how to use daylight fluorescent inks. Also gives data and helpful hints on the production of gift wrappings by flexographic printing. Interchemical Corp. (C-592)

creped wadding PADS. Literature on and sample of creped cellulose wadding for use when effective inner packaging is desired. Wadding can be shaped, colored, and embossed for special effect. Celwa Prod. (C-593)

MARKING EQUIPMENT. Handbook contains important data on the uses and care of marking equipment. Information on stencils, inking brushes, stencil cutters and other marking equipment manufactured by Marsh Stencil Machine Co. (C-594)

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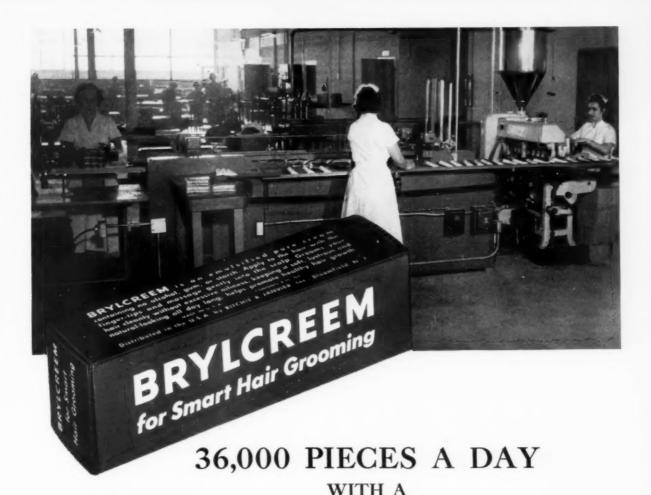


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MARCH 1955

U.S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey

Container-Forming Apparatus, J. G. O'Neil (to Weinon Corp., St. Paul, Minn.). U.S. 2,697,385, Dec. 21. A container-forming device having in combination, a rotatable table, a series of equally and circumferentially spaced cylindrical mandrels carried by said table and extending with their axis substantially at right angles to table, means for intermittently rotating said table the distance between adjacent mandrels and means for feeding a sheet of flexible material into position in front of one of mandrels so that mandrel engages sheet in its movement with table and flexes same.

Mandrel, C. J. Lane (to Daystrom, Inc., a corporation of New Jersey). U.S. 2,697,386, Dec. 21. A floating mandrel comprising an arbor, a tubular member surrounding the arbor and having an internal diameter greater than external diameter of arbor.

Apparatus for Winding Tubes, R. W. Falconer (to Daystrom, Inc., Elizabeth, N. J.). U.S. 2,697,387, Dec. 21. A machine for forming tube bodies from sheets of material by convolutely winding a sheet substantially equal in width to the length of a tube to be formed therefrom into laminated layers, said machine including a rotatable mandrel having a sheet-winding zone followed by a heating zone.

Therapeutic Cold Pack, E. L. Hanna (to Davol Rubber Co., a corporation of Rhode Island). U.S. 2,697,424, Dec. 21. A sealed cold pack having a front sheet of flexible material, a rear sheet of flexible material of slightly larger size than front sheet, edges of rear sheet being folded over edges of front sheet and cemented to front sheet to provide a container and a chemical slurry in said container comprising approximately 10% isopropyl alcohol in water by volume.

Bottle Cap, G. H. Hutaff, Jr., Wilmington, N. C. U.S. 2,697,-532, Dec. 21. A closure for bottles including nested upper and lower cap portions adapted to be applied to the mouth of a receptacle as a unitary structure.

Package Labeling Mechanism, C. F. Richard, Williamsville, N. Y. U.S. 2,697,533, Dec. 21. Labeling mechanism for applying labels to bags or packages having upstanding folds closing the same, said mechanism comprising a pair of folder elements, a slender label support approximating in transverse dimension the thickness of folds, over each of which a piece of labeling material is placed lengthwise and underneath which the upstanding fold of a closed bag or package containing a commodity is situated, and means to move folder elements to engage and fold portions of piece of labeling material overhanging said label support while resting medially thereon.

Box with Handle Cover Fastening Means, E. D. Warner, Tampa, Fla. U.S. 2,697,539, Dec. 21. In a box having a bottom section and a lid hinged thereto, a bridge extending transversely of the bottom section and projecting above the top of bottom section, bridge terminating at its top in a rectangular box of smaller dimensions than bridge whereby a shoulder is formed peripherally of box and handle pivoted for rotation up said bridge, handle having an elongated base.

Automatic Packaging Method and Apparatus, W. S. Paterson and G. E. Ducharme (to Chelsea Carton Co., Chelsea, Mass.). U.S. 2,697,541, Dec. 21. In a machine for packaging packets which enclose a solid material, means for dispensing a relatively small number of packets, said dispensing means including a dispensing hopper, guide means for conducting packets to the dispensing hopper, a conveyor member for locating a packet-receiving carton in position to receive packets delivered from dispensing hopper, and means varying the position of the carton relative to the dispensing hopper so as to cause successive piles of packets to be built up progressively in order that the height of each pile shall remain substantially the same in a plurality of adjacent piles in the carton.

Plural-Compartment Box Formed From a Single Blank of Sheet Material, E. Morand, Jersey City, N. J. U.S. 2,697,544, Dec. 21. A compartmented box formed from a single blank of sheet material comprising a bottom panel and end panels, end panels having at respective corresponding sides thereof cooperative outer and inner interlock sections adapted to be swung inwardly from the erected end panels into interlocked overlapping extension between end panels.

Pilferage-Inhibiting Shipping Container, E. F. Radin (to Victory Container Corp.). U.S. 2,697,545, Dec. 21. A shipping container having a bottom wall, side walls foldably connected to bottom wall, front and back walls foldably connected to bottom wall; each side wall being foldably connected to front and back walls; oblique scorings in each side wall extending from bottom corners of side wall to a terminating apex on its closure extension.

Container Incorporating Nonfibrous Films, R. M. Bergstein (to The Bergstein Packaging Trust). U.S. 2,697,546, Dec. 21. A collapsible box structure formed from a paperboard blank having a rectangular main panel, side-wall panels articulated to opposite side edges of main panel and hinged extensions on outer side edges of side-wall panels.

Multiple-Compartment Tray, E. A. Wagonseller (to Container Corp. of American, Chicago, Ill.). U.S. 2,697,547, Dec. 21. A one-piece generally rectangular blank composed of sheet material pre-cut and pre-scored for folding into a tray having a center row of commodity-receiving compartments and two substantially parallel side rows of commodity-receiving compartments, there being one side row at each side of the center row, said blank including a tray-bottom forming strip.

Packaging Machine, T. P. Howard (Pneumatic Scale Corp., Ltd., Quincy, Mass.). U.S. 2,697,580, Dec. 21. A check-weighing machine having, in combination, check-weighing mechanism including means for determining variation in the weight of an article from a pre-determined weight, means operatively connected with and controlled by said variation-determining means for ascertaining the amount of the average algebraic deviation of a plurality of weighed articles from the aforesaid pre-determined weight.

Label-Applying Mechanism, G. W. von Hofe and H. A. Nefzger (New Jersey Machine Corp., Hoboken, N.J.). U.S. Re: 23,917, Dec. 28. In a labeling machine, the combination of an article-supporting means for sustaining an article thereon, including means for maintaining the article sustained in an at-rest position on said supporting means and means for partially securing an adhesive label to an article sustained by said supporting means and held in an at-rest position thereon by said maintaining means.

Machine for Making Set-Up Boxes, O. E. Cofe and G. H. Nilsen (to United States Automatic Box Machinery Co., Inc., Boston, Mass.). U.S. 2,697,968, Dec. 28. In a machine for assembling a set-up box having a front, bottom, back, body ends, body tabs, a lid, a lid flap, lid ends and lid tabs, a plunger movable vertically and about which box is formed, said plunger having a body-forming portion comprising a bottom and parallel vertical faces and a lid-forming portion comprising bottom and vertical face.

Apparatus for Pleating of Casings and Similar Articles, M. J. G. Tipper, Sacramento, Calif. (one-half to A. O. Steckman, Newark, N.J.). U.S. 2,697,970, Dec. 28. In a pleating apparatus for making pleats at the end of a sheet material and having a series of laterally spaced upper blades and a series of laterally spaced lower blades adapted to interleave therewith, between which series the end of the sheet material is disposed.

Lined Wirebound-Box Blank, W. J. Hogan and A. M. Sylvester (Stapling Machines Co., Rockaway, N.J.). U.S. 2,698,109, Dec. 28. In a wirebound-box blank having a plurality of box sections each formed of side material with cleats stapled thereto adjacent the lateral edges of said box blank, and having several



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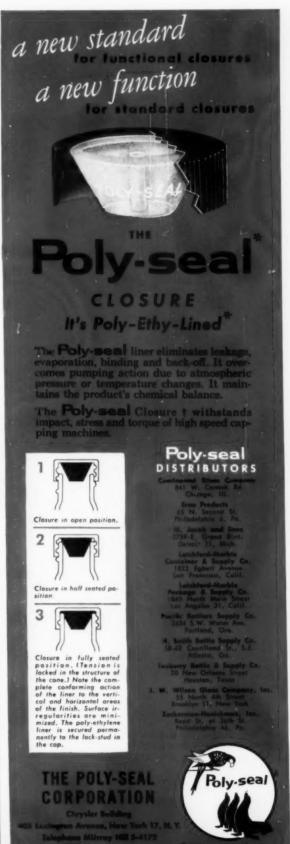
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box sections foldably attached to each other by binding wires secured to the box sections by staples driven astride of said binding wires and through said side material.

Disposable Bottle Cap, I. Schwartz, Tuckahoe, N.Y. U.S. 2,698,108, Dec. 28. A cap for bottles having a peripheral bead surrounding the neck opening thereof, comprising a plastic sheet for covering the neck opening and having a skirt surrounding said bead and divided peripherally into six segments.

Closing Machine For Random-Height Cans, W. Pechy (to American Can Co., New York, N.Y.). U.S. 2,698,122, Dec. 28. In a can-closing machine for random-height cans, the combination of a can-closing head, a conveyor disposed adjacent head and movable through a plurality of working stations, a can support freely mounted on conveyor for movement therewith and for independent movement vertically thereto for receiving and supporting individually cans of random heights.

Shipping and Service Container, J. E. Hines, Pittsfield, Mass. U.S. 2,698,124, Dec. 28. A shipping and serving container for shipping and serving nuts, bolts and small metal parts in bulk, which comprises, an open-ended inner rectangular tubular member formed of corrugated cardboard, said member having closure flaps at each end, closure flaps consisting of inner and outer flaps, respectively, integrally hinged along one edge to adjacent ends of opposed walls.

Container, G. Vizcarrondo and J. G. Rabby (to National Container Corp., New York, N.Y.). U.S. 2,698,125, Dec. 28. A partitioned container comprising a bottom wall, a pair of side walls foldably secured thereto, end walls each foldably secured to a different one of side walls, bottom-wall reinforcing panels foldably secured to said end walls and overlying portions of bottom wall, bottom-wall reinforcing panels having a combined length substantially equal to the length of bottom wall and partition panels foldably secured to said bottom wall.

Heavy-Duty Fibre Bottle Container, J. R. Belsinger (to Belsinger, Inc., Atlanta, Ga.). U.S. 2,698,126, Dec. 28. A heavy-duty fibre open-top container comprising a bottom, side and end walls formed integral therewith, said side walls having extensions at the ends thereof forming half end-wall members abutting each other, each half end-wall member having a slot at and along the side wall to which it is attached.

Automatic Container Filler, F. E. Bronk (to Ritter Co., Inc., Rochester, N.Y.). U.S. 2,698,156, Dec. 28. An automatic container filler comprising a housing, a container support member pivotally mounted adjacent one end thereof on housing, a fluid supply line for filling a container on support member and a valve in said line.

Separable Mold Package for Soft Plastic Foods, L. Peters, Evanston, Ill. U.S. 2,698,248, Dec. 28. L. soft plastic food package comprising a divided support having top-wall portions and end-wall portions, a pair of sheets of plastic film having horizontal portions secured to the top-wall portions, said sheets being pre-formed to provide complementary mold recesses and releasably secured together about said mold recesses.

Apparatus for Setting up Cartons, W. L. Harkess (to Package Machinery Co., East Longmeadow, Mass.). U.S. 2,698,559, Jan. 4. Apparatus for withdrawing collapsed tubular carton bodies from a magazine and distending the same, comprising a vacuum gripper adapted to engage and grip a wall of the carton body in the magazine.

Cigarette Paper Booklet Packing Device, O. F. Goepfert and R. W. Landeck (to Ecusta Paper Corp., a corporation of Delaware). U.S. 2,698,706, Jan. 4. In combination with an intermittently travelling conveyor constructed to receive continuously and advance in regular groups of a desired size a succession of articles, a collecting mechanism for accumulating a group of said continuously received articles to advance intermittently on conveyor.

Device for Inserting Packing Material into Containers, R. W. Hompe and C. C. Hall (to Smith, Kline & French Laboratories, Philadelphia, Pa.). U.S. 2,698,707, Jan. 4. A device for inserting packing material into containers which comprises a belt conveyor adapted to carry containers, a pair of side guide rails above conveyor, a center dividing rail between side guide rails, container arresting mechanism comprising a pair of upstanding gripping plates mounted on dividing rail, spring means secured



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U.S. patents digest

to said plates to bias the plates together and means intermittently to feed in uniform successive increments a pair of strips of packing material substantially horizontal and above said container arresting means.

Multicompartment Carton and Package, M. J. Margolies, Queens Village, N.Y. U.S. 2,698,708, Jan. 4. A carton having a plurality of separate compartments for bottles or the like, said carton comprising a rectangular wall structure including a pair of side-wall panels and a connecting pair of end-wall panels, each of said panels having inturned flaps extending from the top and bottom thereof.

Collapsible Container, E. A. Neuman, Elwood, Ill. U.S. 2,698,709, Jan. 4. A two-piece container composed of a top section and a bottom section, each separately collapsible, and having telescopic engagement and being in mutual reinforcement in set-up position, each of said sections being formed of a blank cut and scored to define a central rectangular panel.

Apparatus for Producing Helically Wound Cylinders, E. B. Robinson, Ashgate, Chesterfield, England. U.S. 2,699,099, Jan. 11. Apparatus for producing cylindrical containers of predetermined length, comprising means for helically winding strip material on a mandrel to form continuously rotating and axially moving tubing, said strip material having control features thereon.

Dispenser for Adhesive Tape, F. E. Rizza, Milford, Conn. U.S. 2,699,251, Jan. 11. In a dispenser for adhesive tape, a hub, a pair of parallel annular flanges fixed to the respective ends of said hub and a tape roll comprising a wound strip of adhesive tape rotatably mounted on said hub whereby a length of said strip may be drawn radially from said roll laterally opposite one point of said flange through rotation of said roll relatively to said hub and flange as the latter are held in the hand against rotation.

Automatic Carton-Loading Machine, K. Wysocki (to Progressive Machine Co., Hackensack, N.J.). U.S. 2,699,278, Jan. 11. An automatic carton-loading machine comprising: a first conveyor including spaced guideways for delivering rows of conveyor for delivering during the forward movement thereof to a position beneath the exit end of conveyor individual cartons having therein rows of cellular compartments and for returning during the reverse movement thereof to a carton-receiving position.

Machine for Filling and Capping Ice-Cream Cups, J. A. Duke, Atlanta, Ga. U.S. 2,699,281, Jan. 11. A machine for filling receptacles with partly liquid material comprising a base, a horizontal table above base, an endless conveyor above table, means at one run of conveyor delivering empty receptacles to carrier, means for delivering a pre-determined quantity of material to receptacle, means for delivering a cap to the receptacle and means at other end for pressing cap into the filled receptacle.

Filling Machine, C. L. Day and R. H. Breeback (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U.S. 2,699,282, Jan. 11. In a container filling machine, a base, a filling table rotatable upon base about a vertical axis, container supporting elements carried by and vertically movable with respect to table, a plurality of filling heads carried by table and respectively including a container mouth engaging sealing ring and a depending filling nozzle in vertical alignment with container supporting elements.

Automatic Container Filling Machine, G. J. Okulity, I. Zozulin and L. A. Atkinson, Vancouver, British Columbia, Canada. U.S. 2,699,283, Jan. 11. An automatic container filling machine comprising in combination a conveyor adopted to deliver empty containers and to remove filled containers, having gates to restrain containers in filling position.

Packaging, K. Bell and G. N. Fisher (to Kraft Foods Co., Chicago, Ill.). U.S. 2,699,285, Jan. 11. A package wrapper comprising a sheet of tearable material having marginal portions which extend beyond said package at opposite ends thereof, said wrapper being folded into a rectangular form to provide a top, bottom and opposed side walls, a tear tape coextensive with the length of wrapper and positioned along one of side walls, the portion of said margins which form extensions of the sides of the package being tucked inwardly toward each other across a portion of the end of the package.



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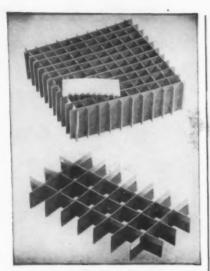


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The rush to formed plastics

(This article continued from page 85) package that successfully converts a line of plumbing fixtures into self-service items. Some 21 items such as faucet handles, shower-curtain pins, water mixers and washers are being packaged in transparent bubbles, which Franklin calls "Vista-paks." According to a spokesman for the company, the results have been revolutionary, resulting in new and more extensive outlets and increased sales.

Although the formed-plastic package has yet to make its weight felt in the food field, perhaps the way is being pointed by the simple vacuum-formed package adopted by Crescent Cheese Co., Montreal, Canada, as mentioned above and described in the article starting on p. 106.

As mentioned previously, plastics formers are also developing containers that can be sealed with snap-on or pull-over lids. Closures of this type have been made practical by the development of special post-forming methods that make it possible to form an undercut in the rim of the lid or a groove in the rim of the container. The sealing characteristics of these closures should make them quite practical for food packaging.

The pharmaceuticals field, which is both a large and alert user of packaging, makes outstanding application of the formed-plastic package. A good many applications combine a printed card and a plastic dome to achieve both protection and merchandising effectiveness. This type of package has been especially popular for doctors' samples.

One of the advantages afforded by formed plastic is the pre-printed design. This can result in a three-dimensional, lifelike replica employing realistic color. Some of today's best display pieces owe their success to the pre-printing method. Today very little of this technique has been seen in packaging itself. The Farmington Industries Co., Farmington, Mo., packager of shoes for babies, has perhaps stolen a march on the entire field by introducing a beautiful three-dimensional Walt Disney "Bambi" design for the lid of its plastic shoe package. The lid (actually the base of the package) has premium re-use value in that it is ideal for mounting as a plaque in the nursery.

Another new note in formed-pack-

age design is the Calvert Distilling Co.'s use of a vacuum-formed simulated gold sheet mounted as an outer sleeve wrap on a cylindrical paper-board gift carton. The plastic sheet has an interesting molded-in texture and features an embossed medallion. In a field that is noted for lavish and imaginative packaging, this package is outstanding.

The formed-plastic container is also being used in a very interesting way by Pro-phy-lac-tic tooth brushes to carry out a juvenile selling theme. The brushes have "sailed" into the juvenile market with an armada of boat-shaped packages that children prize as toys. Applications that can be made in reproducing animals, toys, pictures, maps—serving double duty as a protective package and promotional vehicle—are practically endless.

Display manufacturers have discovered a new realm of color, threedimensional realism and economy in the vacuum-forming process. Package replicas, trade figures and trademarks can be created with a freedom that previously was practical only for selected budgets.

A new and very practical example of formed plastic in the merchandising display field is Anacin's wall merchandiser card. This point-of-purchase unit employs the conventional printed flat card. Two vacuum-formed transparent plastic chutes, each large enough to hold six individual tins of Anacin tablets, are cemented to the card. The tins are gravity dispensed through a die-cut opening in the bottom of the see-through plastic domes.

The seemingly endless possibilities that formed plastics provide for solving age-old packaging problems in new and intriguing ways make it certain that this new field will be a prime subject for discussion and development for many months to come.

Sources

Sources of supply of materials, equipment and services for the formed packages described and illustrated in this article include: Plastics materials—Bakelite, Celanese, Dow, Eastman Kodak and Plax. Vacuum-forming equipment—Auto-Vac Co., 2124 Post Rd., Fairfield, Conn., and Vacuum Forming Corp., 76 S. Bayles Ave., Port Washington, N. Y. Heat-sealing equipment—Packaging Industries,

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Your products enjoy an extra selling advantage when you give retailers this easy opening feature on your cartons. They appreciate the extra speed and convenience of RIP-OPEN TAPE that makes stocking, pricing and shelving so simple, so safe and so timesaving. No cut fingers ... no damage to your products. They show their appreciation by favoring your brand when they re-order. Add this big sales plus to your products now ... Convert your corrugated cases to easy open cases with inexpensive RIP-OPEN TAPE.

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Packed in Rip-Open Cases
enjoy these
BIG SALE
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SAVES RETAILERS 1/2 TIME IN



EASY MARKING OF ITEMS



EASY TO REMOVE AND SHELF



ATTRACTIVE DISPLAYS ARE



CARRY OUTS

... for their coveragated cases



CPS rip-open Tape is available in two widths and three grades, now color-coded for positive identification. Prices start at \$1.98 per 1000 yards which will handle most boards up to 200 lb. test. Other tapes adequate for heavier boards including 350 lb. test, proportionately low priced.

2 simple economical application

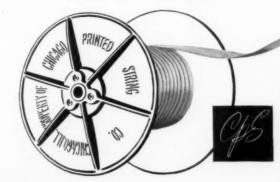
CPS rip-open Tape is easily applied to the inner liner, without reducing production speed or crushing the board. Extra thin construction along with tight permanent bonding of tape to board permits smooth flow on automatic feeding devices or later case-filling without snag or slow down. Wound in 10 to 20 thousand yard rolls to permit long, uninterrupted, economical runs.

3 positive opening action

Completely foolproof, CPS rip-open Tape works every time. The wide selection of tape provides a positive strength opener for all boards including 350 lb. test.

4 easily adapted

Boxmakers welcome CPS rip-open Tape because the application machinery can be easily and inexpensively installed without change of setup.



McCormick Company, Inc., manufacturers of world famous

McCormick's Spices and Condiments; one of many satisfied users of

Rip-Open Tape. Corrugated case made by The Fairmount Box Co-

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Gentlemen: We are interested in your rip-open Tape and would appreciate more information.

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| Title | | | Parses | | |
| Company | | | Address | | |
| Address | | | City | Zene | |
| City | Zona | State | State | | |

6 New Packaging Materials

One of the hottest topics today is the progress in pressure-sensitive labeling. New materials, methods and uses offer unprecedented opportunities for improving competitive positions at the point-of-purchase.

These 6 new types of Red•E•Stik packaging materials permit production-line speed on hard-to-label surfaces , . . positive adhesion regardless of temperature or humidity:

Red • E • Stik F14-for refrigerated packaged goods . . . shows brand, weight, ingredients, price on most film, glass, plastic, waxed containers.

Red • E • Stik A6—for quick, low-cost price changes, special offers, etc., on packages and displays . . . adhesive is anchored to the label . . . removes easily without marring package . . . leaves no messy residue.

Red•E•Stik T33-for tamper-proof labels used on cosmetics, drugs, food, etc. . . . keeps contents sanitary, cuts pilferage . . . any attempt at removal or switching destroys label.

Red • E • Stik V39—special process in which adhesive side is printed . . . label is fully protected when applied to inside of transparent package . . . gives double impact to P-O-P displays on transparent surfaces when printed on both sides.

 $\label{eq:RedoEoStik} \begin{tabular}{ll} ${\rm RedoEoStik}$ ${\rm P48-the}$ low-cost successor to decals . . . the longer it sticks, the stronger the bond . . . no wetting . . . hugs any clean, dry surface. \\ \end{tabular}$

Red • E • Stik R15 – sticks to wood, glass, plastic until removed . . . used for service stickers and reminder ads . . . helps promote sales as repair and inspection labels.

Other Red • E • Stik pressure-sensitive labels are available in any size, shape, color . . . single cut, roll or sheet form . . . stock or special order.

What's more, Red•E•Stik labels, and hand or automatic dispensers, can save you time, labor and money in all phases of your business . . . on the production line, on the product, at the P-O-P. And our label consultants are ready to submit free designs to help you and your agency develop a planned labeling program.

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Ever Ready Packaging Ideas at Work Building a Label with Impulse-Impact

Packaging Div., Ever Ready Label 117F East 30th St., New York 13, N.Y. Factory: Belleville 5, N.J. Ltd., 50 Church St., Monclair, N. J., and Radio Receptor Co., Inc., 251 W. 19 St., New York 11. Custom formers—Einson-Freeman Co., Inc., Starr & Borden Aves., Long Island City 1, N.Y.; Hernard Mfg. Co., 923 Old Nepperhan Ave., Yonkers, N.Y.; King Plastic Products Corp., College Point, N.Y.; Merit Displays Co., McLean Blvd. at E. 26 St., Paterson 4, N.J.;

Plastic Artisans, Inc., 70 Westchester Ave., White Plains, N.Y.; Plaxall, Inc., 5-26 46 Ave., Long Island City, N.Y.; Sample-Durick Co., Inc., Willimansett, Mass.; Shaw-Randall Co., Inc., 39 Sabin St., Pawtucket, R.I.; Western Coil & Electrical Co., Racine, Wis. Labeling machines—New Jersey Machine Corp., 16 St. at Willow Ave., Hoboken, N.J.

Push-button beer lines

(This article continued from page 119) sure on a tension spring attached to a trip mechanism at the end of the lane. When four cans in each of the 12 lanes are in proper position, the pressure is sufficient to activate the trips, which release a control bar, and the cans, in two four-by-six groups, drop. Spring steel fingers guide them into two waiting cases which, meanwhile, have been raised into position by air-operated tables. The two filled cases are quickly lowered and a carrier bar pushes them onto a case conveyor.

(10) Six- and 12-can carry packs are packaged in sealed-end cartons on the latest high-speed equipment.4 Cans of beer are lined up in either three lanes (for 6-packs) or six lanes (if 12-packs are being used). A metering device groups cans into units of the proper size and each group of six or 12 is transferred without delay into a U-shaped conveyor bucket. Each unit load then is moved into position parallel to an opened carton, then gently shoved into the end of the carton. Glue is applied by intaglio glue rolls to both ends and the flaps are sealed and dried by the use of heat. This makes it possible to dry them in just 15 seconds in only 17 ft. of convevor space. Cartons that are imperfectly glued or have a short count are ejected from the packaging line automatically.

(11) The carry packs are next flipped on their sides and loaded automatically into 48-can cases by a master packer. Twin belts are used to place eight 6-packs or four 12-packs into loading position. An operator sets an empty case into position over a loading funnel and trips the loading arm, which shoves the carry packs into the shipping case. The full case is then lowered automatically onto a discharge conveyor.

(12) Cases from this carry-pack machine and from the duplex machines used to pack the 24-can cases are both now fed along conveyors to a conventional glue-flap sealer.

(13) Sealed cases continue on to the automatic palletizers, which handle them in the same way as they do cases of bottles. Pallet loads then go via fork lift to waiting trucks, railway cars or the warehouse.

From this step-by-step glimpse at the operation of the canning and bottling lines at the Anheuser-Busch brewery in Los Angeles we can see how close to being completely automatic the beer-packaging process has become. Operators must still empty new cans into the unscramblers, refill hoppers on the bottle cappers and feed new cartons into some of the casers—but these are relatively minor tasks. Automation takes care of everything else along the line, as empty cans and bottles gradually become pallet loads of cases.

CREDITS: Bottle lines-Bottles by Thatcher Glass Mfg. Co., 1901 Grand Central Ave., Elmira, N. Y. Automatic bottle uncasers by Geo. J. Meyer Mfg. Co., Cudahy, Wis. Soakers and pasteurizers by Barry-Wehmiller Machinery Co., 5660 W. Florissant St., St. Louis 15, Mo. "Cemco" bottle fillers and cappers by Crown Cork & Seal Co., Eastern Ave. & Kresson St., Baltimore 3, Md. "World" labelers by Economic Machinery Co. Div., Geo. J. Meyer Mfg. Co., 60 Fremont St., Worces ter, Mass. Taping machines and case conveyors by Wagner Iron Works, 1905 S. First St., Milwaukee 1, Wis. Bottle casers by Standard-Knapp Div., Emhart Mfg. Co., Portland, Conn. Automatic palletizers by Lamson Corp., Lamson St., Syracuse 1, N. Y. Can lines-Cans by Continental Can Co., 100 E. 42 St., New York 17, and American Can Co., 100 Park Ave., New York 17. Can unscramblers and bulged-can ejectors by Continental Can Co. Can markers by American Can Co. Can fillers by Geo. J. Meyer Mfg. Co. "Hytafil" X-ray can level detectors by General Electric Co., 4855 Electric Ave., Milwaukee 1, Wis. Duplex 48-can casers by Standard-Knapp Div., Emhart Mfg. Co. Carry-home cartoning machine and master packer by R. A. Jones & Co., P. O. Box 2055, Cincinnati 1, Ohio.

See "Faster Can-Carrier Cartoning," Mod-ERN PACKAGING, Aug., 1954, p. 102.

NAPA report

A good balance between supply and demand is reported by buyers of packaging materials, according to the latest report prepared by the National Assn. of Purchasing Agents' Containers Committee. With the off-season for many volume packers, the supply in general is adequate to create desirable competition. From the buyer's viewpoint, quality and favorable prices are thus assured, according to NAPA. Especially is it recommended now that buyers who have raised weight standards again review specifications, such as flat crush, Mullen, tear, compression, etc.

Producer capacities are being increased, the report points out, and new plants are under consideration at locations where service and delivery costs will require buyers to revaluate

buying procedures.

Labor demands could become a hazard to the continuity of container deliveries and further inflationary trends cannot be ignored by the alert buyer, as a possible factor that may affect future prices. Conditions now, however, permit the sound buyer to do a real job in container procurement—improved quality at reasonable prices, according to NAPA. With this opportunity goes responsibility for building and maintaining long-term favorable source connections.

Ventilation of produce

(This article continued from page 144) that for bulb onions film bags should be perforated with at least 16 %-in. holes and that 32 appears to be preferable. Sixty-four %-in. holes also should provide satisfactory ventilation. The large number of ventilation holes was required to allow escape of water vapor given off by the onions. In nonperforated and inadequately perforated polyethylene bags, relative humidity became excessively high and stimulated growth of surface mold, and poor keeping quality resulted.

A flap-type perforation for polyethylene onion bags—many small Uor V-shaped die cuts—was inferior to circular cut-out perforations for letting water vapor escape. For many other kinds of produce a flap-type perforation usually has provided very satis-

factory ventilation.

Kraft shipping bags block many of the ventilation holes in the small film bags. High humidities that develop Time the flow of Gas . . . Liquids . . . Solids in Split-Second Intervals with the

POST INTERVAL TIMER



The Post electronic "Interval Timer" permits fractional second timing of any industrial operation. One, or more, different functions can be controlled by various models.

60 Cycle, line-current, is converted to 120 impulses per second. Desired "action-intervals" can be set in increments as fine as 1/120th of a second, and the timer will automatically time the operation. Controls are easily set . . . stay in position.

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Fills creams, pastes, liquids, powders into tubes, bottles, jars, cans with quantities so exactly metered that your savings on no over-fill are substantial. Fills bottom to top to prevent air pockets. Tubes up to $1\frac{1}{2}$ " x $7\frac{1}{4}$ "; Speeds up to 85 per minute. Clean, no tube wiping necessary. Extra equipment: Tube Cleaner; Cap Tightener; Stirring Device; Electrically Heated Water Jacketed Hopper; No-tube-no-fill Device; Heavy Duty Pump; Special Tube Holders; Delivery Conveyor Belt. Glad to send you literature.

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may adversely affect good quality, if the holding period before retailing is prolonged.

The necessity for perforating film bags was greater when onions from storage were pre-packaged than when newly harvested onions were pre-packaged, because of the rooting problem. If good quality is to be maintained in new onions, film bags for packaging them also should be ventilated. Perforating film bags with 16 to 32 ¼-in. holes will help keep both new and old onions from becoming damp and will reduce or prevent growth of surface mold.

Our conclusions as to ventilation apply to bulb onions and not necessarily to produce items which may benefit from very high package humidity. Some other types of fresh produce which, when packaged in film bags, require large numbers of open perforations for ventilation are potatoes, sweet potatoes and oranges.

Some reports of dissatisfaction with film bags for onions are circulating. Possibly the trouble has been inadequate bag ventilation, or perhaps prolonged holding of film bags in shipping bags before retailing.

Acknowledgments

The cooperation of the following firms in supplying experimental bags and in suggesting the problem is gratefully acknowledged: Atlantic Commission Co., New York; Milprint, Inc., Milwaukee; The Dobeckmun Co., Cleveland; Celanese Corp. of America, Newark, N.J., and Union Bag & Paper Corp., New York.

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MODERN PACKAGING



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New Container Makes Your Product Safe To Carry For Milady's Purse

Yes...now your cosmetic products can go with milady...as she travels to town and country. New Crown plastic SealSTIK containers keep your product fresh under a jar-like protective seal.

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Produce survey

(This article continued from page 99) form quality and greater variety. There are fewer "picked-over" items in the case and shopping is quicker. Washed and cleaned pre-packaged produce reduces preparation time in the home.

This year's upsurge in produce packaging is forcing produce men to take a more critical look at the whole development.8 They are trying to find out just what consumers think of this method of buying fresh fruits and vegetables. They are giving more attention to the most practical items for packaging and to methods for better production-line efficiency.

Progressive pre-packagers are setting up self-imposed codes to sort and grade produce carefully before packaging so that no off-grade products can spoil an otherwise enviable reputation for quality. They are putting more emphasis on unit quantities to meet various market requirements. They are keeping a close check on produce displays to assure freshness and quality control. They are more than ever aware of the need for packages that will give maximum product protection, shelf life and shopper appeal.

They are becoming more brand conscious and recognize the value of establishing trademarks. They are beginning to adopt promotional and advertising techniques used in other

Several cooperative packaging promotions have developed in this field. The "Cute Tomata" promotion last vear was a tie-in with a Northam Warren Cutex lipstick and nail polish color called "Cute Tomata." Those participating used tomato trays and wraps designed with whimsical illustrations of a personified tomato. "Popeve" has, appropriately, been appearing on spinach packages.

Currently in the news is a nationwide plan to promote and merchandise fresh fruits and vegetables with a program based on the Howdy Doody TV personality, already featured on packages of carrots, spinach, kale, apples, celery and lettuce. The idea is to increase children's consumption of fresh produce by capitalizing on the popular character. The plan is being sponsored by a leading supplier of packaging films and the Kagran

⁸ See "Pre-Packaged Produce," Modern Packaging, May, 1954, p. 122.

A midget in size ... performs like a giant

NEW miniature

MANHASSET PRESS

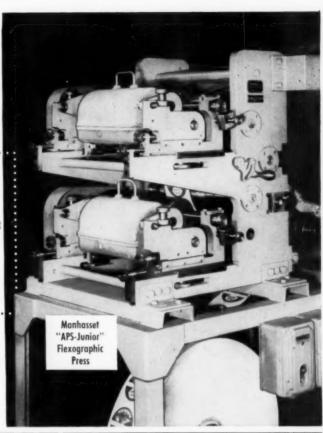
for printing webs up to 12" wide

If you print narrow webs of any flexible packaging material MANHASSET's new miniature press is made for you. A precision-engineered machine that occupies less than 11-sq. ft. of floor space, the "APS-Junior" delivers excellent print quality at speeds up to 300-fpm. on films, 400-fpm. on paper stocks.

The "APS-Junior" has a 15%" maximum printing repeat . . . is available in 4" to 12" widths for 2, 3 and 4-color printing. It features rigid vibration-free construction, accessibility to all parts, sealed splashproof fountains, simplified running register controls, constant tension control and variable speed drive.

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NEW YORK: 55 WEST 42 STREET

Corp., owners and producers of the Howdy Doody show.

The plan, of course, offers cooperating produce packers the opportunity of using colorful Howdy Doody packages at costs they can afford on this cooperative basis. The program also offers advertising aids and the opportunity for spot announcements preceding or following the Howdy Doody network TV show.

In the Cleveland area, the Selected Packagers Institute has been organized to bring together the promotional and merchandising efforts of fresh-produce packers in that area using the Howdy Doody endorsement, reportedly one of the largest joint advertising efforts in the fresh fruit and vegetable field.

Produce packaging is definitely in a boom phase. Department of Commerce field checks show increases of 400% in volume in the Midwest since 1945 and such outstanding local successes as a 600% growth in Richmond, Va., since 1949.

The bushel basket definitely appears to be joining the cracker barrel in limbo.

Liver under plastic

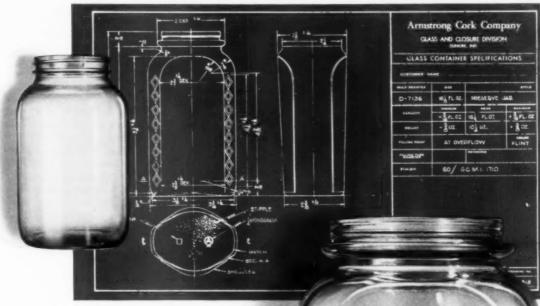
(This article continued from page 93) application for the new plastic-covered container. The all-plastic lid is said not to fog at freezer temperatures and the plastic-coated container to provide effective insulation. Other moist products, such as salads, cottage cheese, butter, cooked vegetables and soups, might be equally suited to this container.

According to the supplier, the container is suitable for dry pack, lactic and other acid foods. The plastic covers are being made to fit three sizes—12-oz. squat, 16-oz. tall and 16-oz. squat. The containers, produced of white stock, may be printed with designs in up to four colors. Covers can be imprinted or labeled.

Interestingly, the plastic-covered containers are not always thrown in the waste basket once their initial use has been served. Thrifty housewives apparently are re-using them to store leftovers in the refrigerator, to hold wet food for picnics, to pack food in home deep freezers and to pack school lunches.

CREDITS: Polystyrene lids molded by Auburn Button Works, Inc., 48 Canoga St., Auburn, N. Y. Plastic-coated paper containers by Sealright Co., Fulton, N. Y.

See what redesign did for this jar

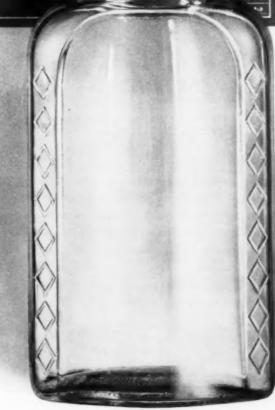


- 1. Container height increased
 - 2. Base made oval instead of round
- 3. Decorations blown in glass

When a packer decided recently to market a smaller jar of preserves, he wanted to change the appearance—as well as the size—of his container.

This jar was the answer. Its oval base and extra height give it a look of size and importance. And the decoration gives it added shelf-appeal.

Making containers look more important—more attractive—is one of many ways good design can improve package performance. Let our designers suggest what it might do for your package. See your Armstrong man or write Armstrong Cork Co., Glass and Closure Division, 5403 Crystal Street, Lancaster, Penna.





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glass that performs . . . packages that sell



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1954 glass shipments

Domestic shipments of new glass containers by the 43 glass companies who are members of the Glass Container Mfrs. Institute, Inc., and represent about 95% of the industry, totaled 16.7 billion in 1954—a decline of only 2.8% from the all-time 1953 peak of 17.1 billion units.

"In the light of industry gains since 1950," according to R. L. Cheney, GCMI's director of marketing, "the decline is a moderate leveling off and compares favorably with the 1954 decline of 6.7% in the Federal Reserve Board index of industrial production." Since 1950 glass container shipments have increased more rapidly than the packaging industry as a whole, Mr. Cheney pointed out.

An analysis of the Institute's figures on shipments of new containers last year (re-use of returnable bottles was not taken into account) reveals increases in several areas.

Glass for packaging food products reached a new high, showing an increase of about 2% over 1953. This is particularly significant since food is by far the largest user of glass containers, comprising 43% of total industry shipments last year, according to Mr. Cheney. He called attention to the keen competition between glass and other types of containers for food, stating that the ever-increasing demand for glass by the food industry is "ample evidence of the dynamic growth of the glass container industry."

Other GCMI figures showed that chemical packaging consumed 4.7% more glass containers last year than it did in 1953; that drugs and cosmetics remained approximately the same.

The fourth major user of glass containers-the beverage industryshowed an over-all decline to 30,115,-000 gross in 1954, in comparison with 34,588,000 in 1953. However, gains were made last year in no-deposit soft-drink bottles and in wine bottles. Milk-bottle shipments totaled 2,771,-000 gross in 1954, in comparison with 3,363,000 in 1953. Beer-bottle shipments were off 13% in 1954, which was largely due, Mr. Cheney said, to inventory adjustments of brewers' stocks of empty returnable bottles, coupled with a decline in beer consumption. GCMI figures revealed that 70% of all packaged beer was glass packed last year. In the soft-drink

field, 1954 shipments of returnable bottles were 6,305,000 gross, in comparison with the peak 1953 figure of 8,978,000, while shipments of nonreturnable, no-deposit bottles increased 6.6%. Wine-bottle shipments increased 2.4% in 1954.

The glass-container industry looks forward to increased shipments in 1955, with the possibility of equaling the 1953 all-time high. "Best estimates indicate," Mr. Cheney stated, "that shipments to food processors will continue to grow with the food industry, informed sources placing the advance in 1955 at 5%." The extent to which users of returnable glass bottles discounted their inventory situation in 1954, he added, indicates that shipments of these bottles in 1955 will substantially increase over 1954. Encouraging predictions for over-all increases in consumer disposable income, Mr. Chenev said, indicate further expansion.

Shrink-tight-

(This article continued from page 102) to obtain the desired shrinkage.

According to one major supplier of the basic film, certain colors, including reds and blues, are more subject than others to bleeding through contact with propylene glycol.

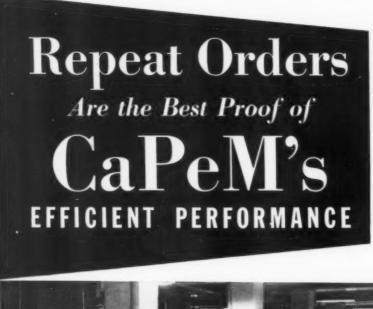
Uniform shrinkage of the film in both directions is particularly important if the package is to be printed. Obviously, if the film used exhibits asymmetrical shrinkage, it will be necessary to produce the original printing in distortion so that it will assume correct proportions after the film has been shrunk in place on the product. Possible distortion of the printing may also be minimized by arranging the design so that it falls on a smooth portion of the bird, such as the breast, rather than at points where the film will be drawn into recesses. The fact that many of the shrinkable polyethylene bags used so far for frozen poultry have been unprinted is probably explained, at least in part, by the fact that converters are conscious of this problem and wish to avoid it if possible. Products using an unprinted bag, of course, require supplementary identification in the form of a tag or label.

Some converters who have worked with the new shrinkable polyethylene film state that, in their opinion, there is a need for specially designed production equipment, particularly of the



THE LEADER IN HIGH SPEED, QUALITY PACKAGING







These eight packaging lines in the Wildroot Plant in Buffalo, N. Y. have a combined capacity of approximately 1000 bottles per minute. The Wildroot Company, manufacturers of famous Wildroot Shampoo and allied products, have long been users of CaPeM screw cappers. The efficient performance turned in by earlier CaPeM machines was the determining factor in their selection when Wildroot recently equipped a new plant.

CaPeM Screw Cappers handle all types of metal and plastic caps and are fully automatic. They operate on jars, cans, bottles and jugs ranging in size from 1 oz. to gallons. Speeds range from 40 to 300 containers per minute.

For complete information on CaPeM Screw Cappers, or other packaging equipment, write Sales Manager, Consolidated Packaging Machinery Corp., Buffalo 13, N.Y.

CaPeM SCREW CAPPERS

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 West Ave., Buffalo 13, N.Y.

automatic type, to handle the film more efficiently. Considering the amount of interest now current in the film and the amount of testing going on, it seems reasonable to assume that equipment manufacturers will give serious thought to the development of such equipment.

It is clear that a final evaluation of shrinkable polyethylene film for the packaging of frozen poultry and other food products cannot be made at the present time. It is also apparent, however, that the material has many interesting properties which merit further study, testing and development work by film producers, converters and packers.

CREDITS: Basic shrinkable polyethylene film produced by The Visking Corp., Plastics Div., Terre Haute, Ind., and Durethene Corp., 1859 S. 55 Ave., Chicago 50, Ill. Among present converters of the film are Howard Plastics, 1401 S. Main St., Council Bluffs, Iowa; Bemis Bro. Bag Co., 408 Pine St., St. Louis 2, Mo., and Central States Paper & Bag Co., Inc., 5221 Natural Bridge Ave., St. Louis 15, Mo. Processing equipment illustrated in Land O' Lakes photos produced by Gordon Johnson Co., 2519 Madison Ave., Kansas City 8, Mo.

New SMI committees

Increase in the supermarket's productivity in the sale and handling of grocery products is the aim of the new productivity committee created by the Super Market Institute.

According to SMI, productivity in packaged products is directly related to materials handling-the receiving, warehousing, transfer, price marking, stocking and checking out. Typical examples of how supplier practices can affect handling costs of supermarkets given by SMI are: (1) Shipping cases -square, cannot be "keyed" in piling and palletizing; have to be cut open, damaging merchandise; inadequately marked, hard to identify contents in warehouse and backroom. (2) Packpacked too many to the case for rate of turnover; jumble packed instead of faced for efficient pricing.

The new committees—which SMI believes are a major advance over traditional concepts of cooperative efforts between manufacturers and retailers—have been set up to seek immediate gains in the correction of practices contributing to high handling costs and loss of productivity, for the benefit of operator, consumer and distributor alike.

Another famous family of products "packaged by National"



Chances are there isn't a drug store in the United States that doesn't stock merchandise packaged by National Folding Box.

Many of the best-known drug manufacturers, Bristol-Myers among them, consistently specify National for volume runs. The facilities, experience and special services offered by National, one of America's largest box makers, can simplify and strengthen your own packaging operation.



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NATIONAL Folding Box

77

PANY, INC.

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Several career openings in our Engineering Department are now available to graduate engineers, preferably mechanical or industrial. Three to ten years' experience in the fields of bulk handling, package handling, packaging, warehousing, or shipping is required. Experience may include Sales, Development and Design for bulk or packaged products. Successful applicants will provide engineering consultation to operating plants on economic methods; and on installation, start-up, servicing, and operation of equipment in the Materials Handling and Packaging fields.

INTERVIEWS AT CHICAGO MEETINGS

When you are in Chicago at the Packaging Show in April, or at the AMHS Show in May, for information and an appointment at your convenience, please call Mr. J. C. Costello, Jr., RAndolph 6-7553

Or you may send a complete resume, including details of education and experience, to:

Mr. J. S. Hamilton

Engineering Dept., Personnel Section

E. I. du Pont de Nemours & Co., Inc.

Wilmington 98

Dolawar

Reprints of articles, features and advertisements that appear in this magazine cost so little that you should really consider using them. Many companies make it a practice to have stories which have a bearing on their business reprinted for distribution to their sales staff, customers, prospects, stockholders or to other interested groups.

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Variety-store awards

Twenty-six awards have been presented to variety-store suppliers for outstanding packaging achievement in the 19th annual National Variety Packaging Competition. The competition, sponsored by Variety Store Merchandiser, this year included nearly 500 entries, largest in its history.

Award winners were:

Cosmetic & Toilet Goods—Gold Award: Johnson & Johnson, for its Band-Aid Patch-Spot Strip package, designed by Nowland & Schladermundt, New York. Silver Awards: Toni Co., for its "Viv" Lipstick; Colgate-Palmolive Co., for its Halo Shampoo.

Toys & Games—Gold Award: Withington Co., for its Archery Set packages. Silver Awards: Eagle Rubber Co., Inc., for its Balloon Party Pak, supplied by The Dobeckmun Co., Cleveland; Hendo Products Corp., for its V-2 Flying Rocket package; Renwal Mfg. Co., for its Hospital Nursery Set.

Household & Housewares-Gold Award: Personal Products Corp., for its "Jonny" Mop De Luxe, designed by Charles Magers, Princeton, N. J. Silver Awards: Earl & Arlington, Inc., for its Plastic Baby Hangers package, designed by Cecil G. Sorgatz, San Francisco; Pretty Products, Inc., for its Toilet Top Tray package, supplied by Bradley & Gilbert, Louisville, Ky.; J. Rubenstein & Sons, for its E-Z Venetian Blind Quick Change Set package, supplied by Universal Folding Box Co., Hoboken, N. J.; Stim-U-Plant Laboratories Co., for its Stim-U-Plant African Violet Food package, designed by Jess Slaughter, Springfield, Ohio.

Hardware, Paint & Electrics—Gold Award: Bridgeport Fabrics, Inc., for its Inner-Seal Weatherstripping package. Silver Awards: Resinite Sales Corp., for its Balboa Double-Tube Sprinkler package; Charles O. Larson Co., for its 3-Row Tool Holder package; Bell Electric Co., for its "No Shok" Extension Cord Sets package, supplied by Acme Paper Box Co.

Notions & Related Lines—Gold Award: John Dritz & Sons, for its Dritz Sewing Aid Line of 11 packages. Silver Awards: Tip-Top Products Co., for its Carry Case With Barrettes and Junior Miss Carry Case packages; Dorothy Flicek Industries, Inc., for its Do-It-Yourself Kit Line.

Stationery-Gold Award: Lily-Tulip Cup Corp., for its Lily "Ful-Vue" Cold Drink Cups package, designed by Lippincott & Margulies, Inc. Silver Awards: Arrow Fastener Co., for its Arrow's Stapling Machine package; Royal Lace Paper Works, for its Roylies Lace Paper Doylies Line, designed by Lippincott & Margulies.

Miscellaneous—Gold Award: Pioneer Knitwear Co., for its Infants Knit Sweater Sets package, distributed by Manufacturers Exchange, designed by Arthur Kurtz, Freeport, N. Y. Silver Awards: Moran Shoe Co., for its Wee Walker Baby Shoes package, supplied by the Gardner Board & Carton Co., Middletown, Ohio; Craftint Mfg. Co., for its Glitter Kit; Cannon Mills, Inc., for its Boxed Towel Ensemble.

New high-speed press

A new rotogravure press recently installed at the Gillette Safety Razor Co., Boston, reportedly prints 45,000,000 razor-blade envelopes monthly. This high rate of production is ac-



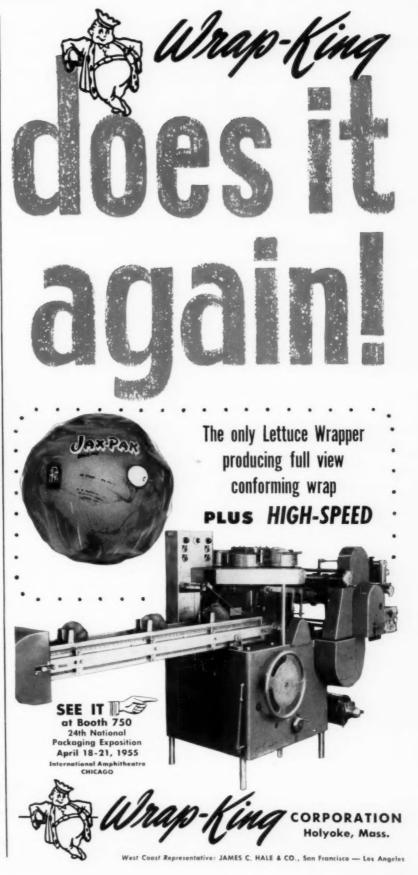
complished, according to company, in a normal 40-hr. week and at an estimated savings of 35%.

Responsible for the high rate of production is the fact that the new high-speed press prints, die cuts and rewinds in one continuous operation. There is no handling between steps.

A major portion of the savings is attributed to the design of the envelope and the fact that the rewinding eliminates end waste formerly associated with the cutting and stacking of envelopes. In addition to these advantages, color and appearance of the finished product are said to be more satisfactory than heretofore.

In operation, rolls of super-calendered gravure paper are hoisted onto a roll stand at one end of the press and the web feeds automatically to the printing units through an eccentric die punch and re-wind unit.

CREDIT: Press installation by Champlain Co., Inc., Bloomfield, N. J.



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Containers to be tested for atom-proofness

The safety of canned foods in both metal and glass containers under the emergency situation of an atomic explosion is soon to be officially and scientifically tested, according to the National Canners Assn.

Joint planning has been under way for several months by a committee consisting of representatives of NCA, the Can Mfrs. Institute, the Glass Container Mfrs. Institute and the American Meat Institute for a series of explosion-condition tests under the sponsorship of the Federal Civil Defense Administration, to be carried out at the Nevada Test Site during the 1955 series of nuclear tests.

Laboratory findings have attested the protective values of canned foods and their containers under atomic conditions and the Civil Defense literature recommends their use for emergency feeding. However, the tests now planned will be the first ever conducted under an actual atomic explosion situation and would lead to findings not possible under laboratory conditions. The experiments will determine whether canned foods in metal and glass can be used safely under such extreme emergency.

The tests now being planned will include a wide variety of canned foods, selected on the basis of largest volume used by consumers.

The canned food tests are part of an over-all food-testing program, the director of which is Dr. E. P. Laug of the Food and Drug Administration. Participants in tests on other types of packaged foods will be the U. S. Department of Agriculture, FDA and the National Assn. of Frozen Food Packers.

Approximately 25,000 samples of about 60 different canned food items in various-sized metal and glass containers have been provided for these tests by 153 canners. The Evaporated Milk Assn. and the National Meat Canners Assn. also have cooperated in procurement of samples. All samples are now being assembled, pre-tested and coded in storage warehouses in the Los Angeles area.

A Technical Operating Group consisting of representatives from each of the participating associations will be present at the tests. The General Planning Committee working with the Civil Defense authorities in preparation for the tests is headed by J. T. Knowles, chairman of the NCA Scientific Research Committee. The canning industry, according to Carlos Campbell, executive secretary of the National Canners Assn., looks upon this project as a constructive opportunity to contribute to national defense.

Self-selling stationery

(This article continued from page 122) which the company has developed, since market test showed that its other model, which occupies about 8 sq. ft. of floor area, is too large for some stores, although suitable for others.

These market tests are also proving valuable in helping the company get a picture of the individual demand for each of the items in the Homeline group. As results are studied, the quantities of many of the products in the assortment may be varied to fit the actual buying habits and preferences of consumers.

Once one of the racks has been introduced into a retail outlet, it is serviced and refilled either by the store itself or by a rack jobber, who visits the store as often as is necessary (never less than once every two weeks) to keep the display in ship-shape condition. U. S. Envelope feels that in the case of a product

such as stationery, which is made up of a multitude of different items, the services of a rack jobber are frequently indispensable.*

The company also emphasizes that the new Homeline group is not intended in any way to supplant its long and successful merchandising program for conventionally packaged stationery that is sold in conventional stationery outlets. It is aimed, rather, at getting extra sales from an entirely new set of customers—shoppers in supermarkets who have got the habit of serving themselves.

CREDITS: Package-design program by Peter Schladermundt Associates (formerly Nowland & Schladermundt), 205 E. 42 St., New York 17. Folding dispenser boxes by United Board & Carton Corp., 2 Park Ave., New York 16. Wire display rack by Richard A. Klein, Inc., Norwood, Mass.

* See "The Rack Jobber's Viewpoint," Modern Packaging, July, 1953, p. 81.



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FOR SALE: Because of packaging change in our line the following equpiment, in excellent working condition, is offered at tremendous savings, IIII and the second of the se

FOR SALE: 3—Mateer Augur type Filling Machine Model No. 31-A. For further information contact S. T. Jerrell Company, P.O. Box 1829, Birmingham, Alabama.

TREMENDOUS STOCK OF WRAPPERS aving. All types and sizes of wrapping machines now available for immediate delivery. Package Machinery Co. FA2, FA, U4 Wrappers. Hayssen 3-7, 7-11, 11-18 Automatic Cellophane Wrappers. Hudson Sharp Campbell Models 2W6, 2W8, 2W10 Cellophane Wrappers. Oliver Model 799-N Wrapper with Cardboard Feed and Labeling Attachment. Stokes and Smith A and B Transwraps. Knapp 429 and Ceco Carton Closers. Ceco, Redington and R. A. Jones Cartoning Units. Tell us your requirements. Write, wire, phone collect today.

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FOR SALE: One Hudson-Sharp Packaging Machine, Model: Campbell Wrapper, Serial No. 2W8-651, 230V, 3PH, 50 cycle, 5 amp. In excellent condition. Like new. Used only 20% of time since purchased in 1951. Will guarantee. Price \$7500.00, F.O.B. Circleville, Ohio. Box 973, Modern Packaging.

FOR SALE: One Amsco high speed model 3 automatic poly bag scaling machine. 110 Volt AC motor. Variable speed drive. Latest model. Used infrequently over six-month period. Priced 6650 (one third off original cost). (F.O.B. Cleveland, Ohio.) Box 977, Modern Packaging.

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WANTED: Spiral Core Winder with range from 1½" LD. three ply up to 3" LD. Nine ply. Core cutting attachment required. Quote price and give complete information. Box 955, Modern Packaging.

WANTED: Hudson Sharp Reel to Reel, all attachments included Polythene Printing Machine. Interested also Roto P.O.2 Cutting and Sealing Machine. Quote price, delivery, age, and as much information as possible. McKendrick Bres. Ltd., P. O. Box 681, Auckland, New Zealand.

WANTED: Used Taber or Other Straight Beader for Thermoplastic Sheets, Single or Double Edge. Box 956, Modern Packaging.

WANTED: Two Model 4 used Simplex machines in very good working condition. Write giving full details and information to: Industrias Crisaza-Apartado aéreo 791, Medellin, Colombia, S. A.

WANTED

Junior Lawtonmatic Wrapping Machine for toilet tissue. Box 972, Modern Packaging

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FOLDING CARTON SALESMEN: Needed to represent United Board and Carton Corporation in expanding territories of Chicago, Ohio, New York, Western Indiana, St. Louis and New England. Several years' experience in selling folding cartons to industrial users required. Salary (commensurate with qualifications) plus com-nissions. Send resume to Suite 1510, 2 Park issions. Send r

EXTRUSION—LAMINATION: Plant Superintendent wanted. Complete charge extrusion-lamination of polyethylene to paper or foil. New Jersey. Excellent opportunity—salary plus incentive bonus. Outline background in full confidence; our employees know of this ad. Interview will be arranged regardless of your location. Box 954, Modern Packaging.

REPRESENTATIVES WANTED: Nationally known manufacturer of heat sealing and automatic labeling equipment desires additional representation by firms or individuals now selling packaging materials or equipment. Exclusive franchise available. Forward complete information. Including firms now representing. Hines handled, territory covered and financial and business references, to Globe Heat-Seal, Inc., 3360 South Robertson Boulevard, Los Angeles 34, California.

DISTRICT REPRESENTATIVES WANTED: Importer of German built filling and sealing machines for flat and bottom bags, well introduced here, has openings for district representatives. When replying advise lines presently handled and territory desired. Box 958, Modern Pack-seiter.

SALESMAN FOR PAPER AND FOIL COATINGS: SALESMAN FOR PAPER AND FOIL COATINGS: Large nationally known manufacturer is expanding paper coating division and has opening for salesman in Midwest. Prefer man with knowledge and experience in this industry. Excellent opportunity to expand established business. Salary and expenses to start, Our personnel know of this ad. Address letter outlining qualifications. Box 959, Modern Packaging.

MANUFACTURERS' REPRESENTATIVES: Top line rigid Aluminum Foil Containers, Closures, and sealing equipment. Full development and congineering facilities. Unlimited possibilities for experienced packaging men. Send full de-tails, including territory covered and present lines. Box 965, Modern Packaging.

MANUFACTURERS' REPRESENTATIVE WANT-ED: Exciting new exclusive non-competitive chemical product makes old fibre drums, cor-rugated boxes like new again. Presently tested and ordered by a scattered group of largest firms in the country. All established business turned over, all business in territories credited, leads developed by advertising. Line of top rated industrial glues included. Best territories still open. All inquiries will be answered. Write: Walter S. Chittick Advertising Agency, 1500 Walnut Street, Phladeliphia, Penna.

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MANUFACTURERS' REPRESENTATIVE: With offices and Warehouse in Los Angeles and covering the West Coast desires lines in Military Packaging and Electronics. Well established and has entree to all Electronic and Aircraft Industry. Box 963, Modern Packaging.

SALESMEN: Firmly established and recognized Packaging Machinery Mfrs Representative requires additional salesmen with experience in packaging equipment to represent us in New York and New Jersey, our line of semi and fully automatic overwapping, carton and bag filling, heat sealing, conveying, case sealing and unit packaging equipment. Substantial commission. Box 964, Modern Packaging.

MANUFACTURERS' REPRESENTATIVE: For Tubular Paper Products. Several territories open. Write full details of territory covered and lines handled. Diamond Straw & Machine Co., 32 W. 18 St., New York 11, N.Y.

SALES ENGINEERS: Leading bottling equipment manufacturer has several openings for qualified Sales Engineers. If you are familiar with the brewing, carbonated beverage, food, liquor or chemical industries and a graduate engineer with previous sales experience, please send complete resume and photograph. These positions offer excellent future and top compensation. All replies will be held in strictest confidence. Personal interview will be arranged. Box 966, Modern Packaging.

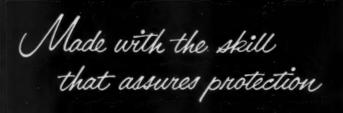
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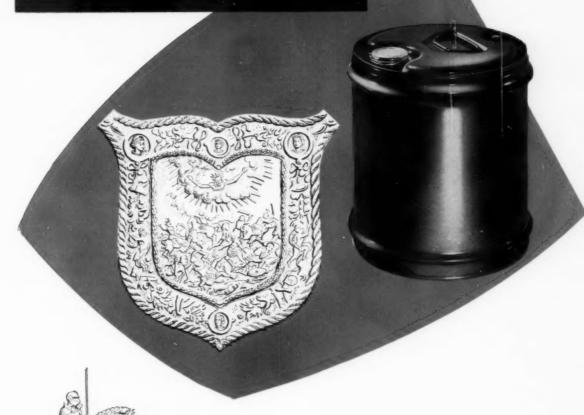
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(Continued on page 216)





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(Continued from page 214)

MANUFACTURERS' REPRESENTATIVES: In all larger cities wanted by well established manufacturer of made-to-order vinyl plastic bags (sewn or heatscaled), to be used for packaging purposes. Must have following in the packaging field. Side line, commission basis. Box 970, Modern Packaging,

SALESMEN WANTED: Folding Box Manufacturer needs experienced Folding Carton salesmen due to expansion, can handle \$500,000.00 to 1 Million Dollars in Folding Cartons. Salesmen are paid salary or commission or both. The plant is located in the N.Y. Metropolitan Area. Box 971, Modern Packaging.

SALES REPRESENTATIVES—Experienced man only. Complete line of cellophane and poly-ethylene converted packaging material. Definite opening in Philadelphia. Other areas still avail-able. Please furnish full details. Strictly confi-dential. Box 976, Modern Packaging.

SALES MANAGER: Prominent, well established Mass Converier and Printers of Cellophane and Polyethylene seeks high caliber man with proven executive ability to sell and build sales organization. Must have satisfactory sales record in fexible packaging field and ability to assume responsibility. Excellent opportunity for right man. Reply stating experience, age, salary expected. Replies held in strict confidence. Box 975, Modern Packaging.

SALES MANAGER: Boxboard field—selling capital goods. Executive type, should have personal contacts with large nationally-known concerns in the folding carton field. This individual is accustomed to carning \$15,000-\$20,000 yearly. Location midwest. All inquiries will be handled in strictest confidence. Write Wm. K. Berger, Management Consultant, 631 Marquette Avenue, Minneapolis, Minnesota. No fee will be charged.

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EXECUTIVE SALES ENGINEER: Seasoned graduate engineer with outstanding achievement in developing and marketing new, high volume, Molded Industrial Packaging and proven sales record in Custom Injection Molded Parts. Thorough working knowledge part design, tool making and molding operations, marking and assembly, 9 years in field. Currently employed. Seeking wider opportunity. Box 957, Modern Parkavine. Packaging.

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tributor of nationally advertised packaging product has attractive, well located display room, office and receptionist. Excellent Indus-trial location, street floor. We can share space and/or represent your product. Box 968, Mod-ern Packaging.

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BRITISH: Twine and Cordage Mfrs. Paper & Burlap merchants specializing in packaging materials both to wholesalers and direct consumers would like to hear from U.S. firms with a view to marketing specialized packaging materials (including synthetics) throughout the U.S. or would consider installing plant to manufacture under license. Good financial resources available for any sound project. All correspondence treated in strictest confidence. Please write to Managing Director, H. Barnett & Co. (Ldn) Ltd., Campbell Road Mills, London, E.3.England.

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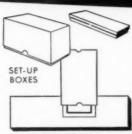
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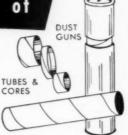
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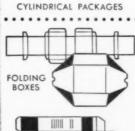
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MARCH 1955

Monsanto DISPLAY CASE

Mark up another win for sight-selling! When Ma-Ro Hosiery Co., Inc.. began to market their new line of "stretch" socks in cardboard boxes, demand was good. But when they re-packaged in Monsanto's crystal-clear Vuepak, three pair to the box, the sales curve reached for the moon! Shoppers can see textures, colors and patterns through the neat, reusable canister made of Vuepak. And even more important, each package makes a multiple sale! Vuepak cellulose acetate has other profit points. It protects against soilage and markdowns. It will not yellow or dish in shipping. It can be printed or embossed. It combines easily with other packaging materials. The container pictured here is made of Monsanto's Vuepak by the Miro Container Company, Inc., 557 DeKalb Avenue, Brooklyn, N. Y.

Sales are s-t-r-e-t-c-h-i-n-g like the socks inside

Transparent canister made of

Vuepak

sells

three pair

instead of

one!

Package your

products in

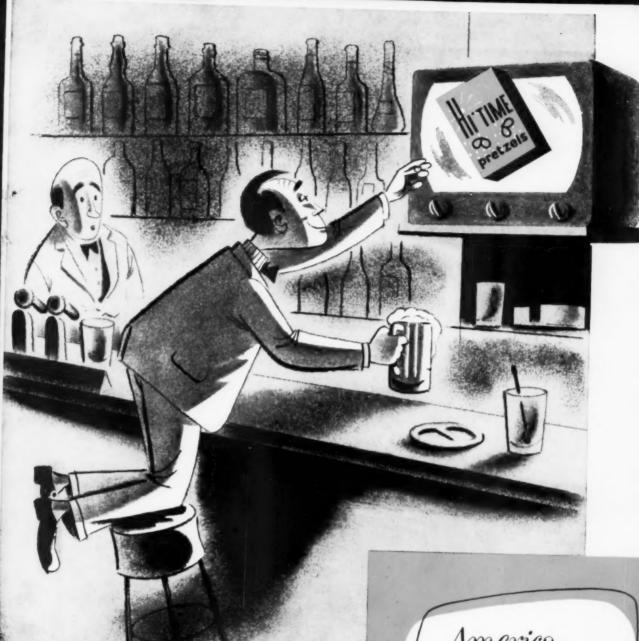
containers made of

VUEPAK*



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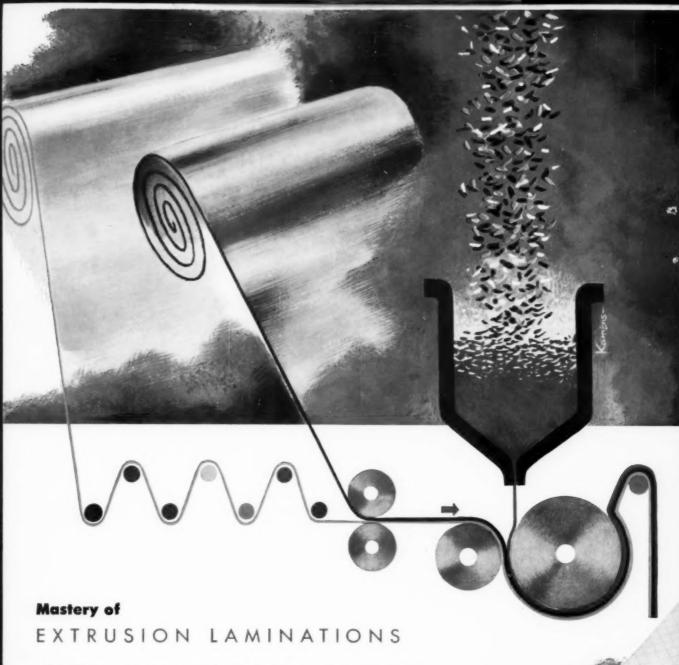


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